

=> file .jacob  
COST IN U.S. DOLLARS  
FULL ESTIMATED COST

SINCE FILE	TOTAL
ENTRY	SESSION
41.47	105.28

FILE 'CAPLUS' ENTERED AT 15:48:32 ON 18 NOV 2003  
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FILE 'BIOSIS' ENTERED AT 15:48:32 ON 18 NOV 2003  
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FILE 'USPATFULL' ENTERED AT 15:48:32 ON 18 NOV 2003  
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=> biocata(5A)film(10A)latex  
L68 0 FILE CAPLUS  
L69 0 FILE BIOSIS  
L70 0 FILE MEDLINE  
L71 0 FILE EMBASE  
L72 0 FILE USPATFULL

TOTAL FOR ALL FILES  
L73 0 BIOCATA(5A) FILM(10A) LATEX

=> biocatalytic(P)film(P)latex(P) (coat or imbed or integra)  
L74 2 FILE CAPLUS  
L75 2 FILE BIOSIS  
L76 1 FILE MEDLINE  
L77 0 FILE EMBASE  
L78 1 FILE USPATFULL

TOTAL FOR ALL FILES  
L79 6 BIOCATALYTIC(P) FILM(P) LATEX(P) (COAT OR IMBED OR INTEGRA)

=> dup rem  
ENTER L# LIST OR (END):179  
PROCESSING COMPLETED FOR L79  
L80 3 DUP REM L79 (3 DUPLICATES REMOVED)

=> d l80 ibib abs total

L80 ANSWER 1 OF 3 USPATFULL on STN  
ACCESSION NUMBER: 2002:140886 USPATFULL  
TITLE: Porous films and process  
INVENTOR(S): Gebhard, Matthew S., New Britain, PA, UNITED STATES  
Lesko, Patricia M., Ottsville, PA, UNITED STATES  
Brown, Albert B., Buckingham, PA, UNITED STATES  
Young, David H., Ambler, PA, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002071867	A1	20020613
APPLICATION INFO.:	US 2001-965377	A1	20010927 (9)

NUMBER	DATE
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PRIORITY INFORMATION: US 2000-241603P 20001019 (60)  
DOCUMENT TYPE: Utility  
FILE SEGMENT: APPLICATION  
LEGAL REPRESENTATIVE: Stephen E. Johnson, Rohm and Haas Company, 100  
Independence Mall West, Philadelphia, PA, 19106  
NUMBER OF CLAIMS: 16  
EXEMPLARY CLAIM: 1  
LINE COUNT: 1013

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Porous films are provided which include a blend of a film forming polymer and a non-film forming material, the film having a network of pores or channels throughout the film. The porous polymer films are formed between 0.degree. and 80.degree. C., retain porosity at elevated temperatures and are non-friable. A process for preparing porous polymer films and their applications are disclosed.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L80 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 1

ACCESSION NUMBER: 2001:781554 CAPLUS  
DOCUMENT NUMBER: 135:368886  
TITLE: Engineering the microstructure and permeability of thin multilayer latex biocatalytic coatings containing E. coli  
AUTHOR(S): Lyngberg, O. K.; Ng, C. P.; Thiagarajan, V.; Scriven, L. E.; Flickinger, M. C.  
CORPORATE SOURCE: Department of Chemical Engineering and Materials Science, University of Minnesota, Minneapolis, MN, 55455, USA  
SOURCE: Biotechnology Progress (2001), 17(6), 1169-1179  
CODEN: BIPRET; ISSN: 8756-7938  
PUBLISHER: American Chemical Society  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB The microstructure and permeability of rehydrated 20-100 .mu.m thick partially coalesced (vinyl-acetate acrylic copolymer) SF091 **latex** coatings and a 118 .mu.m thick model trilayer **biocatalytic** coating consisting of two sealant SF091 layers contg. a middle layer of viable Escherichia coli HB101 + **latex** were studied as delaminated **films** in a diffusion app. with KNO3 as the diffusant. The permeability of the hydrated coatings is due to diffusive transport through the pore space between the partially coalesced SF091 **latex** particles. Coating microstructure was visualized by fast freeze cryogenic SEM (cryo-SEM). The effective diffusion coeff. of SF091 **latex** coatings (diffusive permeability/film thickness) was detd. as the ratio of the effective diffusivity of KNO3 to its diffusivity in water (Deff/D). Polymer particle coalescence was arrested by two methods to increase coating permeability. The first used glycerol with coating drying at 4.degree., near the glass transition temp. (Tg). The second method used sucrose or trehalose as a filler to arrest coalescence; the filler was then dissolved away. Deff/D was measured as a function of **film** thickness; content of glycerol, sucrose, and trehalose; drying time; and rehydration time. Deff/D varied from 3.times.10-4 for unmodified SF091 coatings to 6.8.times.10-2 for coatings contg. sucrose. Deff/D was reduced by the flattening of **latex** particles against the surface of the solid substrate, as well as by the presence of the colloid stabilizer hydroxyethylcellulose (HEC). When cor. for the flattened particle layer, Deff/D of HEC-free coatings was as high as 0.20, which agreed with the value prediced from anal. of cryo-SEM images of the **coat** surface. Deff/D decreased by one-half in approx. 5 days in rehydrated SF091 coatings, indicating that significant wet coalescence occurs after glycerol, sucrose, or trehalose are leached from the **films**. Deff/D of SF091 **latex** trilayer

coatings contg. viable E. coli HB101 cells decreased as cell loading was increased from 2.2.times.10<sup>-2</sup> for 64 g dry cell wt. per L of **coat** vol. to 5.times.10<sup>-3</sup> for 151 g DCW/L of **coat** vol. The redn. in coating permeability with increasing cell loading is predicted by Maxwell's equation for Deff/D in periodic composites.

REFERENCE COUNT: 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L80 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 2

ACCESSION NUMBER: 1999:202327 CAPLUS

DOCUMENT NUMBER: 131:15844

TITLE: Construction of a Thread Coater and Use of Azocasein Release To Characterize the Sealant Coat Porosity of Fibers Coated with Latex Biocatalytic Coatings  
AUTHOR(S): Flickinger, Michael C.; Mullick, Ashim; Ollis, David F.

CORPORATE SOURCE: Biological Process Technology Institute and Department of Biochemistry Molecular Biology and Biophysics, University of Minnesota, St. Paul, MN, 55108, USA

SOURCE: Biotechnology Progress (1999), 15(3), 383-390

CODEN: BIPRET; ISSN: 8756-7938

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A single-stage annular fiber coating method with co-current dry-air drying at 30.degree. has been developed for multilayer coating of 128 .mu.m diam. polyester thread (yarn) with **latex films** as a model for enzyme immobilization and development of a filament **biocatalytic** filter. Acrylic vinyl acetate polymer coatings were sequentially metered onto the fibers by the combination of a flexible squeegee and a red rubber annulus. The thread coater can operate over a range of 0.07-1.37 m/min thread velocities while delivering a nearly const. and reproducible polymer loading of 30.8.+-.1.3 mg/m. A 100% polyester, 278.9 denier thread was precoated with **latex** to generate an approx. 369 denier sealed filament. The filament was then coated with a **latex** + sulfanilamide-azocasein mixt. and sealed with a polymer top **coat**. The permeability of the polymer 'sealant top **coat** was characterized using entrapped azocasein as a tracer mol. and monitoring the azocasein release upon rehydration of the coated threads. Azocasein release rate decreased with curing time at 30.degree. until 2 days and was invariant after 2-3 days of curing. A 282 mOsm rehydrating soln. was sufficient to suppress increased azocasein release due to top **coat** blistering. No enhancement in the permeability of the top **coat** was obsd. when high mol. wt. water sol. polymers (WSPs) were used as fillers. This probably results from the low WSP to **latex** ratio used (0.05-0.1) and the slow rate of WSP leaching compared to the release of azocasein. A method using 60-120 mesh silica was also developed to study the effect of mech. abrasion of the coated threads as measured by azocasein release kinetics.

REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> sensor(P)film(P)polymer

L81 2320 FILE CAPLUS

L82 143 FILE BIOSIS

L83 120 FILE MEDLINE

L84 174 FILE EMBASE

L85 2051 FILE USPATFULL

TOTAL FOR ALL FILES

L86 4808 SENSOR(P) FILM(P) POLYMER

=> sensor(10A)film(15A)polymer

```

L87      836 FILE CAPLUS
L88      29 FILE BIOSIS
L89      28 FILE MEDLINE
L90      52 FILE EMBASE
L91      631 FILE USPATFULL

```

TOTAL FOR ALL FILES

```

L92      1576 SENSOR(10A) FILM(15A) POLYMER

```

=> l92 and (cell-coat)

```

L93      0 FILE CAPLUS
L94      0 FILE BIOSIS
L95      0 FILE MEDLINE
L96      0 FILE EMBASE
L97      0 FILE USPATFULL

```

TOTAL FOR ALL FILES

```

L98      0 L92 AND (CELL-COAT)

```

=> l92 and (cell(2A)coat)

```

L99      0 FILE CAPLUS
L100     0 FILE BIOSIS
L101     0 FILE MEDLINE
L102     0 FILE EMBASE
L103     0 FILE USPATFULL

```

TOTAL FOR ALL FILES

```

L104     0 L92 AND (CELL(2A) COAT)

```

=> cell(2A)coat

```

L105     708 FILE CAPLUS
L106    1235 FILE BIOSIS
L107     901 FILE MEDLINE
L108     842 FILE EMBASE
L109    1289 FILE USPATFULL

```

TOTAL FOR ALL FILES

```

L110    4975 CELL(2A) COAT

```

=> l92 and l110

```

L111     0 FILE CAPLUS
L112     0 FILE BIOSIS
L113     0 FILE MEDLINE
L114     0 FILE EMBASE
L115     0 FILE USPATFULL

```

TOTAL FOR ALL FILES

```

L116     0 L92 AND L110

```

=> file .meeting

'EVENTLINE' IS NOT A VALID FILE NAME

Enter "HELP FILE NAMES" at an arrow prompt (=>) for a list of files that are available. If you have requested multiple files, you can specify a corrected file name or you can enter "IGNORE" to continue accessing the remaining file names entered.

ENTER A FILE NAME OR (IGNORE):ignore

COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	49.20	154.48
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	ENTRY	SESSION
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```
=> sensor(P)polymer(P) (coat or imbed or integra)
L117      0 FILE AGRICOLA
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'SENSOR(P)POLYMER'
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'POLYMER(P) (COAT'
L118      2 FILE BIOTECHNO
L119      0 FILE CONFSCI
L120      0 FILE HEALSAFE
L121      0 FILE IMSDRUGCONF
L122      0 FILE LIFESCI
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'SENSOR(P)POLYMER'
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'POLYMER(P) (COAT'
L123      0 FILE MEDICONF
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'SENSOR(P)POLYMER'
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'POLYMER(P) (COAT'
L124      12 FILE PASCAL
```

TOTAL FOR ALL FILES

```
L125      14 SENSOR(P) POLYMER(P) (COAT OR IMBED OR INTEGRA)
```

=> dup rem

ENTER L# LIST OR (END):l125

DUPLICATE IS NOT AVAILABLE IN 'IMSDRUGCONF, MEDICONF'.

ANSWERS FROM THESE FILES WILL BE CONSIDERED UNIQUE

PROCESSING COMPLETED FOR L125

```
L126      12 DUP REM L125 (2 DUPLICATES REMOVED)
```

=> d l126 ibib abs total

L126 ANSWER 1 OF 12 PASCAL COPYRIGHT 2003 INIST-CNRS. ALL RIGHTS RESERVED.  
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COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.21	0.21

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=> filickinger m/au

```
L1      0 FILE AGRICOLA
L2      0 FILE BIOTECHNO
L3      0 FILE CONFSCI
L4      0 FILE HEALSAFE
'AU' IS NOT A VALID FIELD CODE
L5      0 FILE IMSDRUGCONF
L6      0 FILE LIFESCI
'AU' IS NOT A VALID FIELD CODE
L7      0 FILE MEDICONF
L8      0 FILE PASCAL
```

TOTAL FOR ALL FILES

```
L9      0 FILICKINGER M/AU
```

=> biosensor(P)latex\

```
L10     1 FILE AGRICOLA
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'BIOSENSOR(P)LATEX\'
L11     10 FILE BIOTECHNO
L12     0 FILE CONFSCI
L13     0 FILE HEALSAFE
L14     0 FILE IMSDRUGCONF
L15     3 FILE LIFESCI
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'BIOSENSOR(P)LATEX\'
L16     0 FILE MEDICONF
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'BIOSENSOR(P)LATEX\'
L17     21 FILE PASCAL
```

TOTAL FOR ALL FILES

L18 35 BIOSENSOR(P) LATEX\

=> biosensor(P)latex

L19 1 FILE AGRICOLA

PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH

FIELD CODE - 'AND' OPERATOR ASSUMED 'BIOSENSOR(P) LATEX'

L20 10 FILE BIOTECHNO

L21 0 FILE CONFSCI

L22 0 FILE HEALSAFE

L23 0 FILE IMSDRUGCONF

L24 3 FILE LIFESCI

PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH

FIELD CODE - 'AND' OPERATOR ASSUMED 'BIOSENSOR(P) LATEX'

L25 0 FILE MEDICONF

PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH

FIELD CODE - 'AND' OPERATOR ASSUMED 'BIOSENSOR(P) LATEX'

L26 21 FILE PASCAL

TOTAL FOR ALL FILES

L27 35 BIOSENSOR(P) LATEX

=> biosensor(P)latex(P) (coat or embed)

L28 0 FILE AGRICOLA

PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH

FIELD CODE - 'AND' OPERATOR ASSUMED 'BIOSENSOR(P) LATEX'

PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH

FIELD CODE - 'AND' OPERATOR ASSUMED 'LATEX(P) (COAT'

L29 0 FILE BIOTECHNO

L30 0 FILE CONFSCI

L31 0 FILE HEALSAFE

L32 0 FILE IMSDRUGCONF

L33 0 FILE LIFESCI

PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH

FIELD CODE - 'AND' OPERATOR ASSUMED 'BIOSENSOR(P) LATEX'

PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH

FIELD CODE - 'AND' OPERATOR ASSUMED 'LATEX(P) (COAT'

L34 0 FILE MEDICONF

PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH

FIELD CODE - 'AND' OPERATOR ASSUMED 'BIOSENSOR(P) LATEX'

PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH

FIELD CODE - 'AND' OPERATOR ASSUMED 'LATEX(P) (COAT'

L35 0 FILE PASCAL

TOTAL FOR ALL FILES

L36 0 BIOSENSOR(P) LATEX(P) (COAT OR EMBED)

=> dup rem

ENTER L# LIST OR (END):127

DUPLICATE IS NOT AVAILABLE IN 'IMSDRUGCONF, MEDICONF'.

ANSWERS FROM THESE FILES WILL BE CONSIDERED UNIQUE

PROCESSING COMPLETED FOR L27

L37 27 DUP REM L27 (8 DUPLICATES REMOVED)

=> d l37 ibib abs total

L37 ANSWER 1 OF 27 PASCAL COPYRIGHT 2003 INIST-CNRS. ALL RIGHTS RESERVED.  
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ACCESSION NUMBER: 2003-0444592 PASCAL

COPYRIGHT NOTICE: Copyright .COPYRG. 2003 INIST-CNRS. All rights reserved.

TITLE (IN ENGLISH): Conventional detection method of fibrinogen and fibrin degradation products using latex piezoelectric immunoassay  
Selected papers from the Seventh World Congress on

# Biosensors

AUTHOR: AIZAWA Hidenobu; KUROSAWA Shigeru; TOZUKA Mitsuhiro;  
PARK Jong-Won; KOBAYASHI Koichi; TANAKA Hideo  
CORPORATE SOURCE: National Institute of Advanced Industrial Science and  
Technology (AIST), 1-1 Higashi, Tsukuba, Ibaraki  
305-8565, Japan; Musashi Institute of Technology,  
1-28-1 Tamazutsumi, Setagaya, Tokyo 158-8557, Japan;  
University of Tsukuba, 1-1-1 Tennodai, Tsukuba,  
Ibaraki 305-8572, Japan  
SOURCE: Biosensors & bioelectronics, (2003), 18(5-6), 765-771,  
29 refs.  
Conference: 7 Biosensors 2002 World Congress on  
Biosensors, Tokyo (Japan), 15 May 2002  
ISSN: 0956-5663  
DOCUMENT TYPE: Journal; Conference  
BIBLIOGRAPHIC LEVEL: Analytic  
COUNTRY: United Kingdom  
LANGUAGE: English  
AVAILABILITY: INIST-20668, 354000111039190350

AN 2003-0444592 PASCAL

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AB We developed a conventional immunosensor for fibrinogen and fibrin  
degradation products (FDP) to combine a quartz crystal microbalance (QCM)  
with the agglutination reaction of immunized **latex** beads. FDP  
induced an immunoreaction due to anti-FDP antibody immobilized  
**latex** particles. We successfully measured FDP concentration of in  
human serum within 10 min by QCM method. The detection range of QCM  
immunosensor is covered with screening concentration of FDP in serum (<10  
.mu.g/ml of FDP). The time course of **latex** agglutination  
obtained from QCM immunosensor is synchronized to that of **latex**  
photometric immunoassay. SEM was used to observe the surface of QCM that  
applied FDP serum. The size of **latex** particles agglutinated on  
the QCM electrode increased concomitant with FDP concentration. Frequency  
shift on immunoreaction explains the increased adsorption amount of  
agglutinated **latex** on QCM.

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ACCESSION NUMBER: 2002-0509825 PASCAL

TITLE (IN ENGLISH): Surface-plasmon fluorescence spectroscopy

AUTHOR: NEUMANN T.; JOHANSSON M. L.; KAMBHAMPATI D.; KNOLL W.

CORPORATE SOURCE: Max-Planck-Inst. F. Polymerforschung, D-55128 Mainz,  
Germany, Federal Republic of

SOURCE: Advanced Functional Materials, (2002), 12(9), 575-586,  
14 refs.  
ISSN: 1616-301X

DOCUMENT TYPE: Journal

BIBLIOGRAPHIC LEVEL: Analytic

COUNTRY: United States

LANGUAGE: English

AVAILABILITY: INIST-XXXX

AN 2002-0509825 PASCAL

AB We summarize some features of the recently introduced surface-plasmon  
field-enhanced fluorescence spectroscopy (SPFS): a novel technique  
offering an increased sensitivity for monitoring interfacial binding  
reactions in **biosensor** formats. We briefly discuss the  
enhancement factors obtainable at resonant excitation of surface-plasmon  
modes propagating along a (noble) metal/dielectric interface and refer to  
the (Forster) energy transfer mechanisms operating for chromophores  
excited near metal surfaces. As a first example, we present data obtained  
during the binding of fluorophore-doped **latex** particles to a  
functionalized interface. Then, experiments are described with  
surface-attached oligonucleotide catcher probes and complementary target  
stands from solution, demonstrating the potential of SPES for monitoring

hybridization reactions.

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ACCESSION NUMBER: 2003-0015006 PASCAL  
COPYRIGHT NOTICE: Copyright .COPYRGT. 2003 INIST-CNRS. All rights reserved.  
TITLE (IN ENGLISH): Encapsulation and stability properties of nanoengineered polyelectrolyte capsules for use as fluorescent sensors : Biomedical applications  
AUTHOR: DUCHESNE Ted A.; BROWN J. Quincy; GUICE Kyle B.; LVOV Yuri M.; MCSHANE Michael J.  
CORPORATE SOURCE: Biomedical Engineering Program, Louisiana Tech University, 911 Hergot Avenue, PO Box 10137, Ruston, LA 71272, United States; Chemical Engineering Program, Louisiana Tech University, 911 Hergot Avenue, PO Box 10137, Ruston, LA 71272, United States; Institute for Micromanufacturing, Louisiana Tech University, 911 Hergot Avenue, PO Box 10137, Ruston, LA 71272, United States  
SOURCE: Sensors and materials, (2002), 14(6), 293-308, 34 refs.  
ISSN: 0914-4935  
DOCUMENT TYPE: Journal  
BIBLIOGRAPHIC LEVEL: Analytic  
COUNTRY: Japan  
LANGUAGE: English  
AVAILABILITY: INIST-26630, 354000105134640010

AN 2003-0015006 PASCAL

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AB This is the first report about a novel fluorescence sensor technology based on hollow micro- and nanoscale polyelectrolyte capsules. The nanostructured shells were constructed using the electrostatic layer-by-layer assembly process to deposit multilayer polyion films onto microtemplates (melamine formaldehyde microspheres). The **latex** cores were subsequently dissolved and removed, leaving hollow shells. The capsules were then loaded with a model fluorescent assay consisting of a sodium-sensitive dye and a reference fluorophore. Fluorescence spectroscopy was used to analyze properties of the capsules with respect to their potential application as **biosensors**. The results show that multiple dye molecules can be introduced into the interior of the capsules with excellent control over relative levels, and the capsules retain >99% of fluorescence during 30 days of storage in a buffer. The findings also demonstrate that the capsules are mechanically robust, and only extremes in solvent pH cause significant leaching of fluorophores from the interior of the shells. Finally, results from sodium sensitivity experiments suggest that capsules have excellent potential for use as sensors, with a highly linear response over a broad range (0-100 mM).

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ACCESSION NUMBER: 2002-0211685 PASCAL  
TITLE (IN ENGLISH): A sensor for blood cell counter using MEMS technology  
AUTHOR: SATAKE D.; EBI H.; OKU N.; MATSUDA K.; TAKAO H.; ASHIKI M.; ISHIDA M.  
CORPORATE SOURCE: Fundamental Technol. Research Dept. HORIBA Ltd., Kyoto 601-8510, Japan  
SOURCE: Sensors and Actuators, B: Chemical, (2002), 83(1-3), 77-81, 3 refs.  
Conference: Selected papers from Transducers '01 Eurosensors XV (Transducers 2001), Munich, Germany, 10 Jun 1901-14 Jun 1901  
ISSN: 0925-4005  
DOCUMENT TYPE: Journal; Conference

BIBLIOGRAPHIC LEVEL: Analytic  
COUNTRY: Switzerland  
LANGUAGE: English  
AVAILABILITY: INIST-19425 B

AN 2002-0211685 PASCAL

AB In this study, a sensor for blood cell counter has been developed using MEMS technology. The number of blood cells in human blood could be counted with this micro silicon MEMS device. Aperture-impedance method was used to detect blood cells as voltage signals. As a result of the investigations, suitable materials for the electrode of the device have been found. At first, polystyrene **latex** particles (PSL: Duke Scientific Corp.) were used to confirm the operation of the blood cell counter instead of the actual blood. The difference of the sizes of PSL particles were successfully recognized from the height of pulses and also the concentration of PSL particles were counted by the number of pulses. Finally control blood was introduced into the device, and both red and white blood cells were detected. .COPYRGT. 2002 Elsevier Science B.V. All rights reserved.

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ACCESSION NUMBER: 2002-0113029 PASCAL

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TITLE (IN ENGLISH): A comparative physical study of two different hydrophilic synthetic **latex** matrices for the construction of a glucose **biosensor**  
Papers Presented at the 2nd France-Israel Workshop on **Biosensors** and Biochips, Grenoble, France, 11-16 December 2000

AUTHOR: COSNIER Serge; SZUNERITS Sabine; MARKS Robert S.; NOVOA Andres; PUECH Laurence; PEREZ Emile; RICO-LATTES I.

CORPORATE SOURCE: COSNIER Serge (ed.); MARKS Robert (ed.)  
Laboratoire d'Electrochimie Organique et de Photochimie Redox, UMR CNRS 5630, Universite Joseph Fourier Grenoble 1, BP 53, 38041 Grenoble, France; The Institute for Applied Biosciences, Ben Gurion University of the Negev, PO Box 653, Beer-Sheva 84105, Israel; Department of Biotechnology Engineering, Ben Gurion University of the Negev, PO Box 653, Beer-Sheva 84105, Israel; Laboratoire des IMRCP (CNRS UMR 5623), Universite Paul Sabatier, 118 route de Narbonne, 31062 Toulouse, France  
Laboratoire d'electrochimie organique et de photochimie Redox, universite Joseph Fourier, 38041 Grenoble, France; The Institute for Applied Biosciences, Ben Gurion University of the Negev, Beer-Sheva 84105, Israel  
Universite Joseph Fourier Grenoble 1. Laboratoire d'electrochimie organique et de photochimie Redox UMR CNRS 5630, Grenoble, France (patr.)

SOURCE: Talanta : (Oxford), (2001), 55(5), 889-897, 33 refs.  
Conference: 2 France-Israel Workshop on Biosensors and Biochips, Grenoble (France), 11 Dec 2000  
ISSN: 0039-9140 CODEN: TLNTA2

DOCUMENT TYPE: Journal; Conference

BIBLIOGRAPHIC LEVEL: Analytic

COUNTRY: United Kingdom

LANGUAGE: English

AVAILABILITY: INIST-9221, 354000103099130020

AN 2002-0113029 PASCAL

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AB Two different biodegradable **latex** polymers functionalised by

hydroxy (1) or gluconamide (2) groups proved to be good immobilisation matrixes for glucose oxidase. The responses of these **biosensors** to glucose additions were measured by potentiostating the modified electrodes at 0.6 V SCE in order to oxidise the hydrogen peroxide generated by the enzymatic oxidation of glucose in the presence of oxygen. The response of such electrodes was evaluated as a function of film thickness, pH and temperature. Rotating disk electrode experiments showed the influence of the enzyme on the structure of both **latex** films, namely a marked improvement in matrix permeability. The high permeability of the **latex** 1 based enzyme sensor (bilayer,  $P_{\text{sub.m}} = 8.10 \times 10^{-4} \text{ cm s}^{-1}$ ) resulted in a high dynamic range. Furthermore, the activation energy for a **latex** 1 sensor was determined to be 44.55 and 18.03 kJ mol<sup>-1</sup>, respectively depending on the conformation of the enzyme.

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ACCESSION NUMBER: 2001-0077549 PASCAL

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TITLE (IN ENGLISH): A rapid and easy procedure of **biosensor** fabrication by micro-encapsulation of enzyme in hydrophilic synthetic **latex** films.  
Application to the amperometric determination of glucose

AUTHOR: COSNIER Serge; SZUNERITS Sabine; MARKS Robert S.; NOVOA Andres; PUECH Laurence; PEREZ Emile; RICO-LATTES Isabelle

CORPORATE SOURCE: Laboratoire d'Electrochimie Organique et de Photochimie Redox, UMR CNRS 5630, Universite Joseph Fourier Grenoble 1, 301 rue de la Chimie, BP 53, 38041 Grenoble, France; The Institute for Applied Biosciences, Ben Gurion University of the Negev, P.O. Box 653, Beer-Sheva 84105, Israel; Laboratoire des IMRCP (CNRS UMR 5623), Universite Paul Sabatier, 118 route de Narbonne, 31062 Toulouse, France

SOURCE: Electrochemistry communications, (2000), 2(12), 851-855, 24 refs.  
ISSN: 1388-2481

DOCUMENT TYPE: Journal

BIBLIOGRAPHIC LEVEL: Analytic

COUNTRY: Netherlands

LANGUAGE: English

AVAILABILITY: INIST-26863, 354000094484820070

AN 2001-0077549 PASCAL

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AB Novel enzyme electrodes based on synthetic hydrophilic **latex** matrices are described for the detection of glucose. Glucose oxidase was immobilised through micro-encapsulation, by the simple adsorption of enzyme-**latex** suspensions on the surface of a platinum electrode. Two **latex** films functionalised by a hydroxy or a gluconamide group were used. The response of these **biosensors** to glucose additions was measured by potentiostating the modified electrodes at 0.6 V/SCE in order to oxidise the hydrogen peroxide generated by the enzymatic oxidation of glucose in the presence of dioxygen. The response of such electrodes was evaluated as a function of film thickness and temperature. The sensitivity for a two-layer **latex**-based **biosensor** was found to be 38.78 mA M<sup>-1</sup> cm<sup>-2</sup> with a response time of 3-5 s. Moreover, a marked improvement of the thermal stability of the **biosensor** was observed. Only at temperatures higher than 65.degree.C the enzyme started to be denatured and being inactive.

L37 ANSWER 7 OF 27 BIOTECHNO COPYRIGHT 2003 Elsevier Science B.V. on STN

ACCESSION NUMBER: 2000:30686245 BIOTECHNO  
TITLE: Materials and techniques for electrochemical  
**biosensor** design and construction  
AUTHOR: Zhang S.; Wright G.; Yang Y.  
CORPORATE SOURCE: S. Zhang, Centre Science/Technology in Med., WE Dunn  
Unit, Keele University, Staffordshire ST5 5BG, United  
Kingdom.  
SOURCE: Biosensors and Bioelectronics, (2000), 15/5-6  
(273-282), 96 reference(s)  
CODEN: BBIOE4 ISSN: 0956-5663  
PUBLISHER ITEM IDENT.: S09565663000000762  
DOCUMENT TYPE: Journal; Article  
COUNTRY: United Kingdom  
LANGUAGE: English  
SUMMARY LANGUAGE: English

AN 2000:30686245 BIOTECHNO

AB New developments in **biosensor** design are appearing at a high rate as these devices play increasingly important roles in daily life. This review aims to highlight recent developments in materials and techniques for electrochemical **biosensor** design and construction. Rapid growth in biomaterials, especially the availability and application of a vast range of polymers and copolymers associated with new sensing techniques have led to remarkable innovation in the design and construction of **biosensors**, significant improvements in sensor function and the emergence of new types of **biosensor**. Nevertheless, in vivo applications remain limited by functional deterioration due to surface fouling by biological components. However, new copolymers based upon biomembrane mimicry have been extensively investigated during the last two decades, raising hopes that the problems related to interactions between foreign surfaces and biological fluids and tissues may soon be solved. Copyright (C) 2000 Elsevier Science S.A.

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ACCESSION NUMBER: 2000-0311070 PASCAL  
TITLE (IN ENGLISH): Surface-plasmon field-enhanced fluorescence  
spectroscopy  
AUTHOR: LIEBERMANN T.; KNOLL W.  
CORPORATE SOURCE: Max-Planck-Inst fuer Polymerforschung, Mainz, Germany,  
Federal Republic of  
SOURCE: Colloids and Surfaces A: Physicochemical and  
Engineering Aspects, (2000), 171(1), 115-130, 27 refs.  
ISSN: 0927-7757  
DOCUMENT TYPE: Journal  
BIBLIOGRAPHIC LEVEL: Analytic  
COUNTRY: Netherlands  
LANGUAGE: English  
AVAILABILITY: INIST-18274 A

AN 2000-0311070 PASCAL

AB We describe the combination of surface plasmon- and fluorescence spectroscopy for sensor applications. The resonant excitation of PSP modes at a metal/buffer-interface in a flow cell results in optical field intensities largely enhanced compared to the incoming laser light: a factor of 16, calculated for a Au/water interface by Fresnel formulas was experimentally confirmed. This field enhancement can be used to increase the sensitivity for monitoring binding reactions of an analyte from the aqueous phase to the recognition sites at a functionalized interface, provided this interfacial architecture ensures that the bound (fluorescently labeled) analyte molecules are still within the exponentially decaying evanescent field of the PSP mode, however, also keeping them sufficiently away from the (acceptor states of the) metal to avoid Foerster quenching of the emitted fluorescence. A quantitative analysis is given for two examples: one is the binding of fluorescently-doped latex particles, (at sub-monolayer

coverage), carrying in addition biotin-moieties at their surface for binding to a streptavidin layer at the Au/buffer interface. Here, a correlation between fluorescence intensity and layer thickness can be analyzed. A second example concerns a small biotinylated chromophore, the very dilute binding of which to the streptavidin layer results in only a minute angular shift of the PSP resonance curve, too small to be detected. The fluorescence intensity, however, is easily recorded and gives a rough estimate of the obtainable enhancement factor of ca. 1000.

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ACCESSION NUMBER: 1999-0418295 PASCAL  
COPYRIGHT NOTICE: Copyright .COPYRGT. 1999 INIST-CNRS. All rights reserved.  
TITLE (IN ENGLISH): In situ assembly of colloidal particles into miniaturized **biosensors**  
AUTHOR: VELEV O. D.; KALER E. W.  
CORPORATE SOURCE: Center for Molecular and Engineering Thermodynamics, Department of Chemical Engineering, University of Delaware, Newark, Delaware 19716, United States  
SOURCE: Langmuir, (1999), 15(11), 3693-3698, 33 refs.  
ISSN: 0743-7463 CODEN: LANGD5  
DOCUMENT TYPE: Journal; Letter  
BIBLIOGRAPHIC LEVEL: Analytic  
COUNTRY: United States  
LANGUAGE: English  
AVAILABILITY: INIST-20642, 354000084661620010

AN 1999-0418295 PASCAL

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AB We show how to create arrays of **biosensors** by in situ assembly of colloidal particles onto micropatterned electrodes. **Latex** microspheres from suspension are collected via dielectrophoresis in the micrometer-sized gaps between planar electrodes. The assembled particulate patches are fixed by changing the colloidal interactions to induce coagulation. Immuno-active sites on the **latex** surfaces bind the target molecules. A direct electric conductivity readout is accomplished after secondary tagging with colloidal gold and its enhancement by silver nucleation. The method holds promise for creating disposable on-chip arrays of highly sensitive miniature sensors for specific proteins, DNA fragments, or other biomolecules.

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ACCESSION NUMBER: 1999-0527377 PASCAL  
COPYRIGHT NOTICE: Copyright .COPYRGT. 1999 INIST-CNRS. All rights reserved.  
TITLE (IN ENGLISH): Development of a high sensitivity IgG-**latex** immunodetection system stabilized by hydration forces  
AUTHOR: MOLINA-BOLIVAR J.; GALISTEO-GONZALEZ F.; HIDALGO-ALVAREZ R.  
CORPORATE SOURCE: Grupo de Fisica de Fluidos y Biocoloides, Departamento de Fisica Aplicada, Facultad de Ciencias, Universidad de Granada, 18071 Granada, Spain  
SOURCE: Polymer international, (1999), 48(8), 685-690, 31 refs.  
Conference: Macromoleculas Habana '97. International Symposium, Habana (Cuba), 1 Dec 1997  
ISSN: 0959-8103  
DOCUMENT TYPE: Journal; Conference  
BIBLIOGRAPHIC LEVEL: Analytic  
COUNTRY: United Kingdom  
LANGUAGE: English  
AVAILABILITY: INIST-14717, 354000089119930100  
AN 1999-0527377 PASCAL

CP Copyright .COPYRGT. 1999 INIST-CNRS. All rights reserved.  
AB We present the application of hydration forces to obtain high sensitivity IgG-**latex** immunosystems. To compare these with another standard system, a study is presented of IgG- and F(ab')<sub>2</sub>-**latex** conjugates in terms of colloidal stability and immunoreactivity. The stability domains have been examined using a low-angle light scattering technique (nephelometer). The protein-coated particles present an anomalous stability at high ionic strength when the classical theory predicts aggregation, and this stabilization is attributed to hydration forces. Different electrolyte concentrations and counterion valences have been tested to determine the most influential factors on this stabilization mechanism. Long-term aggregation of the conjugates has also been studied by measuring the aggregate size by photon correlation spectroscopy. To quantify the immunoresponse of the agglutination tests, aggregation in the presence of antigen is followed as a function of time with the nephelometer. The considerable increase in immunoresponse, together with the decrease in possible perturbing side-reactions enhances the technical interest of this method of stabilizing immunolatexes.

L37 ANSWER 11 OF 27 BIOTECHNO COPYRIGHT 2003 Elsevier Science B.V. on STN  
DUPLICATE

ACCESSION NUMBER: 1999:29397149 BIOTECHNO  
TITLE: A single-use luciferase-based mercury  
**biosensor** using Escherichia coli HB101  
immobilized in a **latex** copolymer film  
AUTHOR: Lyngberg O.K.; Stemke D.J.; Schottel J.L.; Flickinger  
M.C.  
CORPORATE SOURCE: Dr. M.C. Flickinger, Biological Process Technology  
Inst., University of Minnesota, 1479 Gortner Ave., St.  
Paul, MN 55108, United States.  
SOURCE: Journal of Industrial Microbiology and Biotechnology,  
(1999), 23/1 (668-676), 46 reference(s)  
CODEN: JIMBFL ISSN: 1367-5435  
DOCUMENT TYPE: Journal; Article  
COUNTRY: United Kingdom  
LANGUAGE: English  
SUMMARY LANGUAGE: English

AN 1999:29397149 BIOTECHNO

AB A single-use Hg(II) patch **biosensor** has been developed consisting of 1.25-cm diameter patches of two acrylic vinyl acetate copolymer layers coated on polyester. The top layer copolymer was 47 .mu.m thick whereas the bottom layer of copolymer plus E. coli cells was 30 .mu.m thick. The immobilized E. coli HB101 cells harbored a mer-lux plasmid construct and produced a detectable light signal when exposed to Hg(II). The immobilized-cell Hg(II) **biosensor** had a sensitivity similar to that of suspended cells but a significantly larger detection range. The levels of mercury detected by the patches ranged from 0.1 nM to 10,000 nM HgCl<sub>2</sub> in pyruvate buffer, and luciferase induction as a function of Hg(II) concentration was sigmoidal. Luciferase activity was detected in immobilized cells for more than 78 h after exposure of the cells to HgCl<sub>2</sub>. Addition of 1 mM D-cysteine to the pyruvate buffer increased luciferase induction more than 100-fold in the immobilized cell patches and 3.5-fold in a comparable suspension culture. The copolymer patches with immobilized cells were stable at -20.degree.C for at least 3 months, and the Hg(II)-induced luciferase activity after storage was similar to that of samples assayed immediately after coating. Patches stored desiccated at room temperature for 2 weeks showed lower mercury-induced luciferase activity when compared to freshly prepared patches, but they still had a considerable detection range of 1 to 10 000 nM HgCl<sub>2</sub>.

L37 ANSWER 12 OF 27 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved.

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DUPLICATE 2

ACCESSION NUMBER: 97:82764 AGRICOLA  
DOCUMENT NUMBER: IND20605298  
TITLE: Hygromycin B antibody production and characterization by a surface plasmon resonance biosensor.  
AUTHOR(S): Medina, M.B.  
CORPORATE SOURCE: ERRC, ARS, USDA, Wyndmoor, PA.  
AVAILABILITY: DNAL (381 J8223)  
SOURCE: Journal of agricultural and food chemistry, Feb 1997. Vol. 45, No. 2. p. 389-394  
Publisher: Washington, D.C. : American Chemical Society.  
CODEN: JAFCAU; ISSN: 0021-8561  
NOTE: Includes references  
PUB. COUNTRY: District of Columbia; United States  
DOCUMENT TYPE: Article  
FILE SEGMENT: U.S. Imprints not USDA, Experiment or Extension  
LANGUAGE: English

AB Sensitive and accurate methods are needed for the detection of hygromycin B antibiotic in fluids and tissues of farm animals. Sheep antisera were produced from hygromycin B-keyhole limpet hemocyanin and were screened with immunodiffusion, ELISA, and fluorescent **latex** assays. The antisera were evaluated with the BIAcore, a surface plasmon resonance **biosensor**, for their binding properties without using signal-generating labels. Hygromycin B was immobilized on the sensor chip, and the capture (binding) of the antibody resulted in a proportional increase in mass. Evaluation of the association ( $k_a$ ) and dissociation rate ( $k_d$ ) contents showed that one antibody had an affinity constant ( $k_a/k_d$ ) of  $1.64E + 10$ . The binding capacities and antisera specificity were determined using a competitive binding of the added drug and hygromycin sensor, detecting hygromycin B from 2.5 ng/mL to 5 mg/mL. Neomycin, gentamicin, spectinomycin, dihydrostreptomycin, and streptomycin (1000 times above safe levels) had negligible binding with the antisera. The BIAcore analysis was more rapid and accurate than the immunochemical assays and allow rapid development of methods of hygromycin B analysis in biological samples.

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ACCESSION NUMBER: 1997-0442531 PASCAL  
COPYRIGHT NOTICE: Copyright .COPYRGT. 1997 INIST-CNRS. All rights reserved.  
TITLE (IN ENGLISH): The bidiffractive grating coupler : application to immunosensing  
AUTHOR: SPINKE J.; ORANTH N.; FATTINGER C.; KOLLER H.; MANGOLD C.; VOEGELIN D.  
KUNZ Rino E. (ed.)  
CORPORATE SOURCE: F. Hoffmann-La Roche Ltd, Diagnostics Division, 4070 Basel, Switzerland; chF. Hoffmann-La Roche Ltd, Diagnostics Division, 4070 Basel, Switzerland; F. Hoffmann-La Roche Ltd, Pharmaceuticals Division, 4070 Basel, Switzerland  
Paul Scherrer Institute, Badenerstrasse 569, 8048 Zurich, Switzerland  
SOURCE: Sensors and actuators. B, Chemical, (1997), 39(1-3), 256-260, 19 refs.  
Conference: 3 EUROPT(R)ODE III: European Conference on Optical Chemical Sensors and Biosensors, Zurich (Switzerland), 31 Mar 1996  
ISSN: 0925-4005  
DOCUMENT TYPE: Journal; Conference  
BIBLIOGRAPHIC LEVEL: Analytic  
COUNTRY: Switzerland  
LANGUAGE: English

AVAILABILITY: INIST-19425B, 354000044952150130

AN 1997-0442531 PASCAL

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AB We report on the application of the bidiffractive grating coupler to the sensitive detection of immunoreactions. The thyroid-stimulating hormone (TSH) assay is used as a model system. The capture antibodies are randomly coupled to the functionalized TiO<sub>2</sub> surface using two approaches: direct coupling to the waveguide surface via a self-assembled monolayer of an amino-reactive silane; and coupling via a thin hydrophilic polymer interlayer. All steps of the surface modification are characterized by the bidiffractive grating coupler and the properties of the two surfaces are compared with respect to non-specific binding, amount of antibody immobilization and antigen binding capacity. A direct TSH assay (label free) shows a detection limit of  $1 \times 10^{-9}$  mol l<sup>-1</sup>, which corresponds to a surface coverage of 24 pg mm<sup>-2</sup>. In a sandwich-type assay the sensitivity can be improved by two to three decades by the use of latex particles.

L37 ANSWER 14 OF 27 BIOTECHNO COPYRIGHT 2003 Elsevier Science B.V. on STN

ACCESSION NUMBER: 1997:27490612 BIOTECHNO

TITLE: Sensitivity enhancement of optical immunosensors with nanoparticles

AUTHOR: Kubitschko S.; Spinke J.; Bruckner T.; Pohl S.; Oranth N.

CORPORATE SOURCE: J. Spinke, F. Hoffmann-La Roche Ltd., Diagnostics Division, Building 205/306, CH-4070 Basel, Switzerland.

SOURCE: Analytical Biochemistry, (1997), 253/1 (112-122), 18 reference(s)

CODEN: ANBCA2 ISSN: 0003-2697

DOCUMENT TYPE: Journal; Article

COUNTRY: United States

LANGUAGE: English

SUMMARY LANGUAGE: English

AN 1997:27490612 BIOTECHNO

AB In recent years, several optical sensor techniques have been developed for the direct monitoring of biomolecular recognition processes at the surface of a sensor chip. Applications of these immunosensors for the determination of substances in serum could be demonstrated only for a few analytes due to the lack of sensitivity. Beside nonspecific binding of serum components to the sensor surface, the analytical sensitivity of these sensors is limited by the molecular weight of the analyte, so that smaller analyte molecules give only a moderate sensor response. In order to enhance the sensor signal, the use of mass labels, such as latex particles, was proposed in the literature. However, detection limits comparable to those of conventional ELISA techniques could not be realized so far. We demonstrate the optimization of a 'nanoparticle enhanced immunosensor assay' for the detection of thyroid stimulating hormone, with respect to the particle coating, size, and nonspecific binding. The developed prototype assay requires a sample volume of 225 µL and has a measuring range up to 35 mIU/L. For the first time, we obtained a detection limit of 0.03 mIU/L (0.1 pM), which is fully competitive to conventional ELISA techniques. The assay allows serum samples to be measured with good precision and dilution linearity. The sensor can be reused several times and shows an excellent correlation to a commercial enzyme immunoassay.

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ACCESSION NUMBER: 1997-0067224 PASCAL

COPYRIGHT NOTICE: Copyright .COPYRG. 1997 INIST-CNRS. All rights reserved.

TITLE (IN ENGLISH): Fabrication and characterization of nanostructured gold electrodes for electrochemical biosensors

AUTHOR: PADESTÉ C.; KOSSEK S.; LEHMANN H. W.; MUSIL C. R.;  
 GOBRECHT J.; TIEFENAUER L.  
 CORPORATE SOURCE: Paul Scherrer Institut, 5232 Villigen PSI,  
 Switzerland; Paul Scherrer Institut, 8048 Zuerich,  
 Switzerland  
 SOURCE: Journal of the Electrochemical Society, (1996),  
 143(12), 3890-3895, 16 refs.  
 ISSN: 0013-4651 CODEN: JESOAN  
 DOCUMENT TYPE: Journal  
 BIBLIOGRAPHIC LEVEL: Analytic  
 COUNTRY: United States  
 LANGUAGE: English  
 AVAILABILITY: INIST-4925, 354000061271880200  
 AN 1997-0067224 PASCAL  
 CP Copyright .COPYRGT. 1997 INIST-CNRS. All rights reserved.  
 AB A process to structure gold electrodes with nanometer-sized dimensions  
 for **biosensor** applications has been developed. **Latex**  
 spheres (60 nm diam) are used as a masking material during the  
 evaporation of a gold film onto a Si/SiO<sub>2</sub> substrate. Openings left  
 in the film after lift-off of the spheres are suitable in size to  
 immobilize proteins such as antibodies or enzymes which can act as  
 specific recognition elements. The nanometer-scale proximity of the  
 recognition elements to the conducting material allows the development of  
 mediatorless **biosensors**. This paper describes the optimization  
 of the nanostructuring process as well as the morphological and  
 electrochemical characterization of the structured electrodes.

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ACCESSION NUMBER: 1995-0511541 PASCAL  
 COPYRIGHT NOTICE: Copyright .COPYRGT. 1995 INIST-CNRS. All rights  
 reserved.  
 TITLE (IN ENGLISH): Two-dimensional **latex** assemblies and their  
 potential application in diagnostics  
 AUTHOR: SLOMKOWSKI S.; KOWALCZYK D.; TRZNADEL M.  
 CORPORATE SOURCE: Polish acad. sci., cent. molecular macromolecular  
 studies, 90-363 Lodz, Poland  
 SOURCE: Trends in polymer science : (Regular ed.), (1995),  
 3(9), 297-304, 29 refs.  
 ISSN: 0966-4793  
 DOCUMENT TYPE: Journal  
 BIBLIOGRAPHIC LEVEL: Analytic  
 COUNTRY: United Kingdom  
 LANGUAGE: English  
 AVAILABILITY: INIST-22981, 354000054614890030  
 AN 1995-0511541 PASCAL  
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L37 ANSWER 17 OF 27 PASCAL COPYRIGHT 2003 INIST-CNRS. ALL RIGHTS RESERVED.  
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ACCESSION NUMBER: 1995-0154935 PASCAL  
 COPYRIGHT NOTICE: Copyright .COPYRGT. 1995 INIST-CNRS. All rights  
 reserved.  
 TITLE (IN ENGLISH): **Latex** piezoelectric immunoassay : effect of  
 interfacial properties  
 AUTHOR: GHOURCHIAN H. O.; KOMO N.  
 CORPORATE SOURCE: Hokkaido univ., fac. pharmaceutical sci., lab.  
 biophysical chemistry, Sapporo 060, Japan  
 SOURCE: Analytica chimica acta, (1995), 300(1-3), 99-105, 20  
 refs.  
 ISSN: 0003-2670 CODEN: ACACAM  
 DOCUMENT TYPE: Journal  
 BIBLIOGRAPHIC LEVEL: Analytic  
 COUNTRY: Netherlands

LANGUAGE: English  
AVAILABILITY: INIST-3950, 354000058055030140

AN 1995-0154935 PASCAL

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AB **Latex** piezoelectric immunoassay is a technique for detecting agglutination of antibody- or antigen-bearing **latex** by an immunoreaction using a piezoelectric quartz crystal; the agglutination decreases the oscillation frequency of the crystal. This is advantageous in that immobilization of antibody or antigen on the crystal surface is unnecessary. In this report, different kinds of chemical functional groups were immobilized on the electrode surface, allowing us to consider the effect of interfacial structure on the frequency change. Electrode modifications such as self-assembly of alkanethiol and aminoalkoxysilane monolayers, and polyethylenimine-glutaraldehyde coating as well as plasma treatment were examined. The sensitivity of the system was found to imitate the interfacial properties so that modification of the electrode surface could improve the response

L37 ANSWER 18 OF 27 BIOTECHNO COPYRIGHT 2003 Elsevier Science B.V. on STN

ACCESSION NUMBER: 1995:26099186 BIOTECHNO

TITLE: Incorporation of the cholera toxin receptor in phospholipid-covered polystyrene microspheres

AUTHOR: Sicchierolli S.M.; Carmona-Ribeiro A.M.

CORPORATE SOURCE: Departamento Bioquimica, Instituto Quimica, Universidade Sao Paulo, CP 26077, Sao Paulo SP, Brazil.

SOURCE: Colloids and Surfaces B: Biointerfaces, (1995), 5/1-2 (57-61)

CODEN: CSBBEQ ISSN: 0927-7765

DOCUMENT TYPE: Journal; Article

COUNTRY: Netherlands

LANGUAGE: English

SUMMARY LANGUAGE: English

AN 1995:26099186 BIOTECHNO

AB The incorporation of monosialoganglioside (GM1) in phosphatidylcholine-covered **latexes** is described. Quantitative analysis of the total incorporation is carried out using pyrene-labeled GM1. Incorporation reaches 50% of the total amount added when microspheres are covered with one PC monolayer plus one PC bilayer at least. In contrast, GM1 adsorption onto the bare **latex** is zero. Phospholipid coverage is an essential factor for driving incorporation of the cholera toxin receptor in the microspheres. The results may be of importance for the development of **biosensors**.

L37 ANSWER 19 OF 27 BIOTECHNO COPYRIGHT 2003 Elsevier Science B.V. on STN  
DUPLICATE

ACCESSION NUMBER: 1994:24314966 BIOTECHNO

TITLE: Nucleic acid detection with surface plasmon resonance using cationic **latex**

AUTHOR: De Vries E.F.A.; Schasfoort R.B.M.; Van der Plas J.; Greve J.

CORPORATE SOURCE: Netherlands Organization, Applied Scientific Research (TNO), Department of Microbiology, P.O. Box 360,3700 AJ Zeist, Netherlands.

SOURCE: Biosensors and Bioelectronics, (1994), 9/7 (509-514)

CODEN: BBIOE4 ISSN: 0956-5663

DOCUMENT TYPE: Journal; Article

COUNTRY: United Kingdom

LANGUAGE: English

SUMMARY LANGUAGE: English

AN 1994:24314966 BIOTECHNO

AB An affinity sensor based on Surface Plasmon Resonance (SPR) was used to detect nucleic acids. SPR is an optical technique that is able to detect small changes in the refractive index of the immediate vicinity of a metal surface. After a specific amplification of DNA, achieved using the

performance during several recharge cycles (of 14 days each) over a period of 4 months.

L37 ANSWER 22 OF 27 BIOTECHNO COPYRIGHT 2003 Elsevier Science B.V. on STN  
DUPLICATE

ACCESSION NUMBER: 1993:23356400 BIOTECHNO  
TITLE: Enhanced surface plasmon resonance inhibition test  
(ESPRIT) using **latex** particles  
AUTHOR: Severs A.H.; Schasfoort R.B.M.  
CORPORATE SOURCE: Department of Microbiology, TNO-Nutrition and Food  
Research, PO Box 360,3700 AJ Zeist, Netherlands.  
SOURCE: Biosensors and Bioelectronics, (1993), 8/7-8 (365-370)  
CODEN: BBIOE4 ISSN: 0956-5663  
DOCUMENT TYPE: Journal; Article  
COUNTRY: United Kingdom  
LANGUAGE: English  
SUMMARY LANGUAGE: English

AN 1993:23356400 BIOTECHNO

AB The pregnancy hormone human chorionic gonadotropin (hCG) was used as a model antigen to describe a new assay, the Enhanced Surface Plasmon Resonance Inhibition Test (ESPRIT). It was shown that the introduction of sub-micron **latex** particles instead of anti-antibodies in an enhancement step improved the sensitivity of the assay by a factor of 30. **Latex** particles are therefore considered to be versatile tools in the development of new immunochemical assays for the detection of any analyte using SPR immunosensors.

L37 ANSWER 23 OF 27 BIOTECHNO COPYRIGHT 2003 Elsevier Science B.V. on STN

ACCESSION NUMBER: 1993:23224559 BIOTECHNO  
TITLE: An immunosensor for syphilis screening based on surface plasmon resonance  
AUTHOR: Severs A.H.; Schasfoort R.B.M.; Salden M.H.L.  
CORPORATE SOURCE: Netherlands Organization for, Applied Scientific Research, PO Box 360,3700 AJ Zeist, Netherlands.  
SOURCE: Biosensors and Bioelectronics, (1993), 8/3-4 (185-189)  
CODEN: BBIOE4 ISSN: 0956-5663  
DOCUMENT TYPE: Journal; Article  
COUNTRY: United Kingdom  
LANGUAGE: English  
SUMMARY LANGUAGE: English

AN 1993:23224559 BIOTECHNO

AB In this paper the development of a surface plasmon resonance (SPR) immunosensor for syphilis screening is described. This immunosensor is based on the detection of antibodies in serum against the causative organism *Treponema pallidum*. In order to achieve selectivity a recombinant *Treponema pallidum* membrane protein A (TnpA) was used. This antigen can react with antibodies to *T. pallidum*, present in serum of syphilitic patients. Reproducible results have been obtained, using a 'sandwich SPR' method: binding of a sandwich antibody to the treponemal antibody after serum incubation was measured in real time while the binding was taking place. The SPR results obtained from ten blind-coded sera corresponded well with classical syphilis tests (*Treponema pallidum* haemagglutination assay (TPHA) fluorescent treponemal antibody-absorbed test (FTA-ABS), venereal diseases research laboratory flocculation test (VDRL) and TnpA-based enzyme-linked immunosorbent assay (TnpA-ELISA)). Preliminary experiments showed that direct measurement of serum (in the 'one step SPR') is not yet possible, probably as a result of non-uniformity of serum samples. The application of **latex** beads is considered to solve this problem.

L37 ANSWER 24 OF 27 PASCAL COPYRIGHT 2003 INIST-CNRS. ALL RIGHTS RESERVED.  
on STN

ACCESSION NUMBER: 1993-0297586 PASCAL  
TITLE (IN ENGLISH): Phospholipid adsorption onto polystyrene microspheres

AUTHOR: CARMONA-RIBEIRO A. M.; HERRINGTON T. M.  
CORPORATE SOURCE: Univ. Sao Paulo, dep. bioquimica, 01498 Sao Paulo, Brazil  
SOURCE: Journal of colloid and interface science, (1993), 156(1), 19-23, 10 refs.  
ISSN: 0021-9797 CODEN: JCISA5  
DOCUMENT TYPE: Journal  
BIBLIOGRAPHIC LEVEL: Analytic  
COUNTRY: United States  
LANGUAGE: English  
AVAILABILITY: INIST-4124, 354000036579890020  
AN 1993-0297586 PASCAL  
AB Small unilamellar phospholipid vesicles and polystyrene microspheres interact in aqueous solution to form homodisperse and stable phospholipid covered **latexes**. First, the bilayer attaches to the **latex**. Second, the hydrophobic attraction between the phospholipid bilayer and the hydrophobic polystyrene surface induces coverage with one phospholipid monolayer. Thereafter phospholipid bilayer (s) deposits onto the monolayer covered **latex**. These results may be of importance for reconstitution of the protein function, studies on cell surface recognition, and building-up of immunological kits and **biosensors**.

L37 ANSWER 25 OF 27 PASCAL COPYRIGHT 2003 INIST-CNRS. ALL RIGHTS RESERVED.  
on STN

ACCESSION NUMBER: 1993-0255167 PASCAL  
TITLE (IN ENGLISH): Third-generation amperometric **biosensor** for glucose. Polypyrrole deposited within a matrix of uniform **latex** particles as mediator  
AUTHOR: KOOPAL C. G. J.; FEITERS M. C.; NOLTE R. J. M.; DE RUITER B.; SCHASFOORT R. B. M.  
CORPORATE SOURCE: Univ. Nijmegen, Nijmegen SON res. cent., 6525 ED Nijmegen, Netherlands  
SOURCE: Bioelectrochemistry and bioenergetics, (1992), 29(2), 159-175, 30 refs.  
ISSN: 0302-4598  
DOCUMENT TYPE: Journal  
BIBLIOGRAPHIC LEVEL: Analytic  
COUNTRY: Switzerland  
LANGUAGE: English  
AVAILABILITY: INIST-1150 A, 354000032567580020  
AN 1993-0255167 PASCAL

L37 ANSWER 26 OF 27 BIOTECHNO COPYRIGHT 2003 Elsevier Science B.V. on STN

ACCESSION NUMBER: 1991:21218262 BIOTECHNO  
TITLE: Fluorescence polarization immunoassay employing immobilized antibody  
AUTHOR: Tsuruoka M.; Tamiya E.; Karube I.  
CORPORATE SOURCE: TOYOBO Co. Ltd Research Center, Katata, Shiga 520-02, Japan.  
SOURCE: Biosensors and Bioelectronics, (1991), 6/6 (501-505)  
CODEN: BBIOE4 ISSN: 0956-5663  
DOCUMENT TYPE: Journal; Conference Article  
COUNTRY: United Kingdom  
LANGUAGE: English  
SUMMARY LANGUAGE: English  
AN 1991:21218262 BIOTECHNO  
AB The use of an antibody immobilized on **latex** or silver colloid in fluorescence polarization immunoassay (FPI) is assessed. In FPI it is possible to detect antigens of high molecular weight because the molecular weight of the antibody is effectively increased. In the assay for rabbit immunoglobulin G a limit of detection lower by two orders of magnitude and an assay range wider by one order of magnitude can be obtained in comparison with conventional FPI. The detection limit is

10.sup.-.sup.1.sup.0 mol 1.sup.-.sup.1 and the total assay time for one sample is 8 min. This assay combines a low detection limit with a short assay time.

L37 ANSWER 27 OF 27 PASCAL COPYRIGHT 2003 INIST-CNRS. ALL RIGHTS RESERVED.  
on STN  
ACCESSION NUMBER: 1990-0004783 PASCAL  
TITLE (IN ENGLISH): BREVET. Immobilised enzymes and their use in aminoacid  
electrosensors  
CORPORATE SOURCE: MONSANTO EUROPE SA  
SOURCE: (31 May 1989)  
Patent Information: EP 0 318 452 A1  
Application Information: 88870163.8 1988-10-28  
Priority Information: GB 8725333 1987-10-29  
DOCUMENT TYPE: Patent  
BIBLIOGRAPHIC LEVEL: Monographic  
LANGUAGE: English  
AVAILABILITY: INPI  
AN 1990-0004783 PASCAL

=> file .jacob		
COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	46.71	46.92

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=> flickinger m/au  
L38 0 FILE CAPLUS  
L39 1 FILE BIOSIS  
L40 2 FILE MEDLINE  
L41 3 FILE EMBASE  
L42 0 FILE USPATFULL

TOTAL FOR ALL FILES  
L43 6 FLICKINGER M/AU

=> l43 and biosensor  
L44 0 FILE CAPLUS  
L45 0 FILE BIOSIS  
L46 0 FILE MEDLINE  
L47 0 FILE EMBASE  
L48 0 FILE USPATFULL

TOTAL FOR ALL FILES  
L49 0 L43 AND BIOSENSOR

=> d l49 ibib abs total  
L49 HAS NO ANSWERS

'TOTAL ' IS NOT A VALID SEARCH STATUS KEYWORD

Search status keywords:

NONE ---- Display only the number of postings.

STATUS -- Display statistics of the search.

ENTER SEARCH STATUS OPTION (NONE), STATUS, OR ?:none

L38 0 SEA FILE=CAPLUS ABB=ON PLU=ON FLICKINGER M/AU  
L39 1 SEA FILE=BIOSIS ABB=ON PLU=ON FLICKINGER M/AU  
L40 2 SEA FILE=MEDLINE ABB=ON PLU=ON FLICKINGER M/AU  
L41 3 SEA FILE=EMBASE ABB=ON PLU=ON FLICKINGER M/AU  
L42 0 SEA FILE=USPATFULL ABB=ON PLU=ON FLICKINGER M/AU  
L43 6 SEA FLICKINGER M/AU  
L44 0 SEA FILE=CAPLUS ABB=ON PLU=ON L38 AND BIOSENSOR  
L45 0 SEA FILE=BIOSIS ABB=ON PLU=ON L39 AND BIOSENSOR  
L46 0 SEA FILE=MEDLINE ABB=ON PLU=ON L40 AND BIOSENSOR  
L47 0 SEA FILE=EMBASE ABB=ON PLU=ON L41 AND BIOSENSOR  
L48 0 SEA FILE=USPATFULL ABB=ON PLU=ON L42 AND BIOSENSOR  
L49 0 SEA L43 AND BIOSENSOR

=> d l43 ibib abs total

L43 ANSWER 1 OF 6 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN  
ACCESSION NUMBER: 1974:95624 BIOSIS  
DOCUMENT NUMBER: PREV197410095624; BR10:95624  
TITLE: MICROBIAL INACTIVATION OF ERYTHROMYCIN.  
AUTHOR(S): FLICKINGER M; PERLMAN D  
SOURCE: Abstracts of the Annual Meeting of the American Society for  
Microbiology, (1974) Vol. 74, pp. 71.  
CODEN: ASMACK. ISSN: 0094-8519.  
DOCUMENT TYPE: Article  
FILE SEGMENT: BR  
LANGUAGE: Unavailable

L43 ANSWER 2 OF 6 MEDLINE on STN  
ACCESSION NUMBER: 2001533895 MEDLINE  
DOCUMENT NUMBER: 21464428 PubMed ID: 11580272  
TITLE: Reduced outer membrane permeability of Escherichia coli  
O157:H7: suggested role of modified outer membrane porins  
and theoretical function in resistance to antimicrobial  
agents.  
AUTHOR: Martinez M B; Flickinger M; Higgins L; Krick T;  
Nelsetuen G L  
CORPORATE SOURCE: Department of Biochemistry, Molecular Biology, and  
Biophysics, University of Minnesota, St. Paul, Minnesota  
55108, USA.  
CONTRACT NUMBER: HL60859 (NHLBI)  
SOURCE: BIOCHEMISTRY, (2001 Oct 9) 40 (40) 11965-74.  
Journal code: 0370623. ISSN: 0006-2960.  
PUB. COUNTRY: United States  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
LANGUAGE: English  
FILE SEGMENT: Priority Journals  
ENTRY MONTH: 200111  
ENTRY DATE: Entered STN: 20011003  
Last Updated on STN: 20011105  
Entered Medline: 20011101  
AB Outer membrane permeability of Escherichia coli O157:H7 was determined by  
an in vivo kinetic model with the periplasmic enzyme alkaline phosphatase  
[Martinez et al. (1996) Biochemistry 35, 1179-1186]. p-Nitrophenyl  
phosphate (PNPP) substrate, added to intact bacteria, must diffuse through  
the outer membrane to reach the enzyme. At low substrate concentration  
the bacterium was in the perfectly reactive state where all molecules that  
entered the periplasm were captured and converted to product.  
Transmembrane diffusion was rate limiting, and the permeability of the

outer membrane was determined from kinetic properties. The O157:H7 strain grown at 30 degrees C showed one-sixth the permeability of wild-type E. coli grown at 30 degrees C. Wild-type bacteria grown at  $\geq 37$  degrees C show a physiological response with a shift in expression of outer membrane porins that lowered permeability to PNPP by approximately 70%. The O157:H7 strain did not display this temperature-sensitive shift in permeability even though a change in porin expression could be visualized by staining intensity of Omp F and Omp C on acrylamide gels. Altered behavior of the O157:H7 membrane was also indicated by a several thousand-fold lower response to transformation relative to wild-type E. coli. Matrix-assisted laser desorption ionization time of flight mass spectrometry and electrospray ionization mass spectrometry confirmed the expression of the Omp F and Omp C variants that are unique to E. coli O157:H7. This reduced outer membrane permeability can contribute to enhanced resistance of O157:H7 to antimicrobial agents.

L43 ANSWER 3 OF 6 MEDLINE on STN  
 ACCESSION NUMBER: 1999458595 MEDLINE  
 DOCUMENT NUMBER: 99458595 PubMed ID: 10527514  
 TITLE: The efficient removal of endotoxins from insulin using quaternized polyethyleneimine-coated porous zirconia.  
 AUTHOR: McNeff C; Zhao Q; Almlof E; **Flickinger M**; Carr P W  
 CORPORATE SOURCE: Department of Chemistry, University of Minnesota, 207 Pleasant Street S.E., Minneapolis, Minnesota, 55455, USA.  
 SOURCE: ANALYTICAL BIOCHEMISTRY, (1999 Oct 15) 274 (2) 181-7. Journal code: 0370535. ISSN: 0003-2697.  
 PUB. COUNTRY: United States  
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
 LANGUAGE: English  
 FILE SEGMENT: Priority Journals  
 ENTRY MONTH: 199912  
 ENTRY DATE: Entered STN: 20000113  
 Last Updated on STN: 20000113  
 Entered Medline: 19991213

AB The synthesis and use of a zirconia-based, alkali-stable strong anion-exchange stationary phase are described for the removal of pyrogenic lipopolysaccharides (LPS) from insulin. The strong anion-exchange material is produced by deposition of polyethyleneimine (PEI) onto porous zirconia particles, followed by cross-linking with a novel reagent, 1,2-bis-(2-iodoethoxy) ethane, and quaternization with iodomethane. Physical characterization of the chromatographic support shows that it has an ion-exchange capacity of 0.6 mmol/g, and 82% of the amine sites on the surface are in quaternized form. Isocratic elution of small benzoic acid derivatives shows good column efficiency. The two primary virtues of this material are its chemical stability under alkali conditions (up to pH 13) and its lower hydrophobicity compared to previously described alkali-stable PEI-coated zirconia supports cross-linked with 1,10-diiododecane. Using this new zirconia-based phase, a purification protocol is developed for the efficient removal of Escherichia coli O111:B4 LPS from bovine insulin samples. An endotoxin clearance rate of up to  $1.3 \times 10^8$  was attained. Endotoxin levels were reduced to less than 5 endotoxin units/ml even at initial contamination levels as high as  $5.0 \times 10^6$  endotoxin units/ml. Furthermore, endotoxin adsorbed to the porous zirconia column may be easily removed (depyrogenated) using alkali for repeated purification cycles.  
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L43 ANSWER 4 OF 6 EMBASE COPYRIGHT 2003 ELSEVIER INC. ALL RIGHTS RESERVED. on STN  
 ACCESSION NUMBER: 2001357250 EMBASE  
 TITLE: Reduced outer membrane permeability of Escherichia coli O157:H7: Suggested role of modified outer membrane porins and theoretical function in resistance to antimicrobial

agents.  
 AUTHOR: Martinez M.B.; **Flickinger M.**; Higgins L.A.; Krick  
 T.; Nelsestuen G.L.  
 CORPORATE SOURCE: G.L. Nelsestuen, Department of Biochemistry, University of  
 Minnesota, St. Paul, MN 55108, United States.  
 nelse002@tc.umn.edu  
 SOURCE: Biochemistry, (9 Oct 2001) 40/40 (11965-11974).  
 Refs: 55  
 ISSN: 0006-2960 CODEN: BICHAW  
 COUNTRY: United States  
 DOCUMENT TYPE: Journal; Article  
 FILE SEGMENT: 004 Microbiology  
 037 Drug Literature Index  
 LANGUAGE: English  
 SUMMARY LANGUAGE: English

AB Outer membrane permeability of Escherichia coli O157:H7 was determined by  
 an in vivo kinetic model with the periplasmic enzyme alkaline phosphatase  
 [Martinez et al. (1996) Biochemistry 35, 1179-1186]. p-Nitrophenyl  
 phosphate (PNPP) substrate, added to intact bacteria, must diffuse through  
 the outer membrane to reach the enzyme. At low substrate concentration the  
 bacterium was in the perfectly reactive state where all molecules that  
 entered the periplasm were captured and converted to product.  
 Transmembrane diffusion was rate limiting, and the permeability of the  
 outer membrane was determined from kinetic properties. The O157:H7 strain  
 grown at 30 .degree.C showed one-sixth the permeability of wild-type E.  
 coli grown at 30 .degree.C. Wild-type bacteria grown at .gtoreq.37  
 .degree.C show a physiological response with a shift in expression of  
 outer membrane porins that lowered permeability to PNPP by approximately  
 70%. The O157:H7 strain did not display this temperature-sensitive shift  
 in permeability even though a change in porin expression could be  
 visualized by staining intensity of Omp F and Omp C on acrylamide gels.  
 Altered behavior of the O157:H7 membrane was also indicated by a several  
 thousand-fold lower response to transformation relative to wild-type E.  
 coli. Matrix-assisted laser desorption ionization time of flight mass  
 spectrometry and electrospray ionization mass spectrometry confirmed the  
 expression of the Omp F and Omp C variants that are unique to E. coli  
 O157:H7. This reduced outer membrane permeability can contribute to  
 enhanced resistance of O157:H7 to antimicrobial agents.

L43 ANSWER 5 OF 6 EMBASE COPYRIGHT 2003 ELSEVIER INC. ALL RIGHTS RESERVED.  
 on STN

ACCESSION NUMBER: 1999364231 EMBASE  
 TITLE: The efficient removal of endotoxins from insulin using  
 quaternized polyethyleneimine-coated porous zirconia.  
 AUTHOR: McNeff C.; Zhao Q.; Almlof E.; **Flickinger M.**;  
 Carr P.W.  
 CORPORATE SOURCE: P.W. Carr, Department of Chemistry, University of  
 Minnesota, 207 Pleasant Street S.E., Minneapolis, MN 55455,  
 United States  
 SOURCE: Analytical Biochemistry, (15 Oct 1999) 274/2 (181-187).  
 Refs: 28  
 ISSN: 0003-2697 CODEN: ANBCA2  
 COUNTRY: United States  
 DOCUMENT TYPE: Journal; Article  
 FILE SEGMENT: 029 Clinical Biochemistry  
 037 Drug Literature Index  
 LANGUAGE: English  
 SUMMARY LANGUAGE: English

AB The synthesis and use of a zirconia-based, alkalistable strong anion-  
 exchange stationary phase are described for the removal of pyrogenic  
 lipopolysaccharides (LPS) from insulin. The strong anion-exchange material  
 is produced by deposition of polyethyleneimine (PEI) onto porous zirconia  
 particles, followed by cross-linking with a novel reagent,  
 1,2-bis-(2-iodo-ethoxy) ethane, and quaternization with iodomethane.

Physical characterization of the chromatographic support shows that it has an ion-exchange capacity of 0.6 mmol/g, and 82% of the amine sites on the surface are in quaternized form. Isocratic elution of small benzoic acid derivatives shows good column efficiency. The two primary virtues of this material are its chemical stability under alkali conditions (up to pH 13) and its lower hydrophobicity compared to previously described alkali-stable PEI-coated zirconia supports cross-linked with 1,10-diiododecane. Using this new zirconia-based phase, a purification protocol is developed for the efficient removal of *Escherichia coli* 0111:B4 LPS from bovine insulin samples. An endotoxin clearance rate of up to  $1.3 \times 10^8$  was attained. Endotoxin levels were reduced to less than 5 endotoxin units/ml even at initial contamination levels as high as  $5.0 \times 10^6$  endotoxin units/ml. Furthermore, endotoxin adsorbed to the porous zirconia column may be easily removed (depyrogenated) using alkali for repeated purification cycles.

L43 ANSWER 6 OF 6 EMBASE COPYRIGHT 2003 ELSEVIER INC. ALL RIGHTS RESERVED.  
on STN

ACCESSION NUMBER: 93361454 EMBASE

DOCUMENT NUMBER: 1993361454

TITLE: Erratum: Cloning and sequence analysis of the meso-diaminopimelate decarboxylase gene from *Bacillus methanolicus* MGA3 and comparison to other decarboxylase genes (Applied and Environmental Microbiology 9:9 (2935)).

AUTHOR: Mills D.A.; Flickinger M.

CORPORATE SOURCE: Department of Biochemistry, IASBPT, University of Minnesota, 1479 Gortner Avenue, St. Paul, MN 55108, United States

SOURCE: Applied and Environmental Microbiology, (1993) 59/12 (4377).

ISSN: 0099-2240 CODEN: AEMIDF

COUNTRY: United States

DOCUMENT TYPE: Journal; Errata

FILE SEGMENT: 004 Microbiology

LANGUAGE: English

=> file .chemistry

COST IN U.S. DOLLARS

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FULL ESTIMATED COST

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63.81

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PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
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PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'LATEX(P)(COAT'
L51      0 FILE BIOTECHNO
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'BIOSENSOR(P)LATEX'
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'LATEX(P)(COAT'
L52      0 FILE COMPENDEX
L53      0 FILE ANABSTR
L54      0 FILE CERAB
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'BIOSENSOR(P)LATEX'
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'LATEX(P)(COAT'
L55      0 FILE METADEX
L56      4 FILE USPATFULL
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TOTAL FOR ALL FILES  
L57 4 BIOSENSOR(P) LATEX(P)(COAT OR IMBED OR INTEGRA)

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L58 ANSWER 1 OF 4 USPATFULL on STN  
ACCESSION NUMBER: 2003:237907 USPATFULL  
TITLE: Compositions and methods for the therapy and diagnosis  
of colon cancer  
INVENTOR(S): King, Gordon E., Shoreline, WA, UNITED STATES  
Meagher, Madeleine Joy, Seattle, WA, UNITED STATES  
Xu, Jiangchun, Bellevue, WA, UNITED STATES  
Secrist, Heather, Seattle, WA, UNITED STATES  
Jiang, Yuqiu, Kent, WA, UNITED STATES  
PATENT ASSIGNEE(S): Corixa Corporation, Seattle, WA, UNITED STATES, 98104  
(U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003166064	A1	20030904
APPLICATION INFO.:	US 2002-99926	A1	20020314 (10)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 2001-33528, filed on 26 Dec 2001, PENDING Continuation-in-part of Ser. No. US 2001-920300, filed on 31 Jul 2001, PENDING		

	NUMBER	DATE
PRIORITY INFORMATION:	US 2001-302051P	20010629 (60)
	US 2001-279763P	20010328 (60)
	US 2000-223283P	20000803 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	SEED INTELLECTUAL PROPERTY LAW GROUP PLLC, 701 FIFTH AVE, SUITE 6300, SEATTLE, WA, 98104-7092	
NUMBER OF CLAIMS:	17	

EXEMPLARY CLAIM: 1  
LINE COUNT: 8531

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Compositions and methods for the therapy and diagnosis of cancer, particularly colon cancer, are disclosed. Illustrative compositions comprise one or more colon tumor polypeptides, immunogenic portions thereof, polynucleotides that encode such polypeptides, antigen presenting cell that expresses such polypeptides, and T cells that are specific for cells expressing such polypeptides. The disclosed compositions are useful, for example, in the diagnosis, prevention and/or treatment of diseases, particularly colon cancer.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L58 ANSWER 2 OF 4 USPATFULL on STN

ACCESSION NUMBER: 2003:106233 USPATFULL  
TITLE: Compositions and methods for the therapy and diagnosis of pancreatic cancer  
INVENTOR(S): Benson, Darin R., Seattle, WA, UNITED STATES  
Kalos, Michael D., Seattle, WA, UNITED STATES  
Lodes, Michael J., Seattle, WA, UNITED STATES  
Persing, David H., Redmond, WA, UNITED STATES  
Hepler, William T., Seattle, WA, UNITED STATES  
Jiang, Yuqiu, Kent, WA, UNITED STATES  
PATENT ASSIGNEE(S): Corixa Corporation, Seattle, WA, UNITED STATES, 98104 (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003073144	A1	20030417
APPLICATION INFO.:	US 2002-60036	A1	20020130 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2001-333626P	20011127 (60)
	US 2001-305484P	20010712 (60)
	US 2001-265305P	20010130 (60)
	US 2001-267568P	20010209 (60)
	US 2001-313999P	20010820 (60)
	US 2001-291631P	20010516 (60)
	US 2001-287112P	20010428 (60)
	US 2001-278651P	20010321 (60)
	US 2001-265682P	20010131 (60)

DOCUMENT TYPE: Utility  
FILE SEGMENT: APPLICATION  
LEGAL REPRESENTATIVE: SEED INTELLECTUAL PROPERTY LAW GROUP PLLC, 701 FIFTH AVE, SUITE 6300, SEATTLE, WA, 98104-7092  
NUMBER OF CLAIMS: 17  
EXEMPLARY CLAIM: 1  
LINE COUNT: 14253

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Compositions and methods for the therapy and diagnosis of cancer, particularly pancreatic cancer, are disclosed. Illustrative compositions comprise one or more pancreatic tumor polypeptides, immunogenic portions thereof, polynucleotides that encode such polypeptides, antigen presenting cell that expresses such polypeptides, and T cells that are specific for cells expressing such polypeptides. The disclosed compositions are useful, for example, in the diagnosis, prevention and/or treatment of diseases, particularly pancreatic cancer.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L58 ANSWER 3 OF 4 USPATFULL on STN

ACCESSION NUMBER: 2002:272801 USPATFULL

TITLE: Compositions and methods for the therapy and diagnosis of colon cancer

INVENTOR(S): Stolk, John A., Bothell, WA, UNITED STATES  
 Xu, Jiangchun, Bellevue, WA, UNITED STATES  
 Chenault, Ruth A., Seattle, WA, UNITED STATES  
 Meagher, Madeleine Joy, Seattle, WA, UNITED STATES

PATENT ASSIGNEE(S): Corixa Corporation, Seattle, WA, UNITED STATES, 98104 (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002150922	A1	20021017
APPLICATION INFO.:	US 2001-998598	A1	20011116 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2001-304037P	20010710 (60)
	US 2001-279670P	20010328 (60)
	US 2001-267011P	20010206 (60)
	US 2000-252222P	20001120 (60)

DOCUMENT TYPE: Utility

FILE SEGMENT: APPLICATION

LEGAL REPRESENTATIVE: SEED INTELLECTUAL PROPERTY LAW GROUP PLLC, 701 FIFTH AVE, SUITE 6300, SEATTLE, WA, 98104-7092

NUMBER OF CLAIMS: 17

EXEMPLARY CLAIM: 1

LINE COUNT: 9233

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Compositions and methods for the therapy and diagnosis of cancer, particularly colon cancer, are disclosed. Illustrative compositions comprise one or more colon tumor polypeptides, immunogenic portions thereof, polynucleotides that encode such polypeptides, antigen presenting cell that expresses such polypeptides, and T cells that are specific for cells expressing such polypeptides. The disclosed compositions are useful, for example, in the diagnosis, prevention and/or treatment of diseases, particularly colon cancer.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L58 ANSWER 4 OF 4 USPATFULL on STN

ACCESSION NUMBER: 2002:243051 USPATFULL

TITLE: Compositions and methods for the therapy and diagnosis of ovarian cancer

INVENTOR(S): Algate, Paul A., Issaquah, WA, UNITED STATES  
 Jones, Robert, Seattle, WA, UNITED STATES  
 Harlocker, Susan L., Seattle, WA, UNITED STATES

PATENT ASSIGNEE(S): Corixa Corporation, Seattle, WA, UNITED STATES, 98104 (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002132237	A1	20020919
APPLICATION INFO.:	US 2001-867701	A1	20010529 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2000-207484P	20000526 (60)

DOCUMENT TYPE: Utility

FILE SEGMENT: APPLICATION

LEGAL REPRESENTATIVE: SEED INTELLECTUAL PROPERTY LAW GROUP PLLC, 701 FIFTH AVE, SUITE 6300, SEATTLE, WA, 98104-7092

NUMBER OF CLAIMS: 11

EXEMPLARY CLAIM: 1

LINE COUNT: 25718

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Compositions and methods for the therapy and diagnosis of cancer, particularly ovarian cancer, are disclosed. Illustrative compositions comprise one or more ovarian tumor polypeptides, immunogenic portions thereof, polynucleotides that encode such polypeptides, antigen presenting cell that expresses such polypeptides, and T cells that are specific for cells expressing such polypeptides. The disclosed compositions are useful, for example, in the diagnosis, prevention and/or treatment of diseases, particularly ovarian cancer.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

=> sensor(P)latex(P)(coat or imbed or integ?)

L59 6 FILE CAPLUS

PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH

FIELD CODE - 'AND' OPERATOR ASSUMED 'SENSOR(P)LATEX'

PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH

FIELD CODE - 'AND' OPERATOR ASSUMED 'LATEX(P)(COAT'

L60 0 FILE BIOTECHNO

PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH

FIELD CODE - 'AND' OPERATOR ASSUMED 'SENSOR(P)LATEX'

PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH

FIELD CODE - 'AND' OPERATOR ASSUMED 'LATEX(P)(COAT'

L61 11 FILE COMPENDEX

L62 1 FILE ANABSTR

L63 0 FILE CERAB

PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH

FIELD CODE - 'AND' OPERATOR ASSUMED 'SENSOR(P)LATEX'

PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH

FIELD CODE - 'AND' OPERATOR ASSUMED 'LATEX(P)(COAT'

L64 0 FILE METADEX

L65 29 FILE USPATFULL

TOTAL FOR ALL FILES

L66 47 SENSOR(P) LATEX(P)(COAT OR IMBED OR INTEG?)

=> dup rem

ENTER L# LIST OR (END):l66

PROCESSING COMPLETED FOR L66

L67 43 DUP REM L66 (4 DUPLICATES REMOVED)

=> d l59-64 ibib abs total

'L59-64' IS NOT A VALID FORMAT

In a multifile environment, a format can only be used if it is valid in at least one of the files. Refer to file specific help messages or the STNGUIDE file for information on formats available in individual files.

REENTER DISPLAY FORMAT FOR ALL FILES (FILEDEFAULT):d

'D' IS NOT A VALID FORMAT

In a multifile environment, a format can only be used if it is valid in at least one of the files. Refer to file specific help messages or the STNGUIDE file for information on formats available in individual files.

REENTER DISPLAY FORMAT FOR ALL FILES (FILEDEFAULT):

REENTER DISPLAY FORMAT FOR ALL FILES (FILEDEFAULT):d l59

'D' IS NOT A VALID FORMAT

'L59' IS NOT A VALID FORMAT

In a multifile environment, a format can only be used if it is valid in at least one of the files. Refer to file specific help messages or the STNGUIDE file for information on formats available in individual files.

REENTER DISPLAY FORMAT FOR ALL FILES (FILEDEFAULT):d l67 ibib abs total

'D' IS NOT A VALID FORMAT

'L67' IS NOT A VALID FORMAT

'TOTAL' IS NOT A VALID FORMAT

In a multifile environment, a format can only be used if it is valid in at least one of the files. Refer to file specific help messages or the STNGUIDE file for information on formats available in individual files.

REENTER DISPLAY FORMAT FOR ALL FILES (FILEDEFAULT):y\

'Y\' IS NOT A VALID FORMAT

In a multifile environment, a format can only be used if it is valid in at least one of the files. Refer to file specific help messages or the STNGUIDE file for information on formats available in individual files.

REENTER DISPLAY FORMAT FOR ALL FILES (FILEDEFAULT):y

'Y' IS NOT A VALID FORMAT

In a multifile environment, a format can only be used if it is valid in at least one of the files. Refer to file specific help messages or the STNGUIDE file for information on formats available in individual files.

REENTER DISPLAY FORMAT FOR ALL FILES (FILEDEFAULT):d l67 ibib abs total

'D' IS NOT A VALID FORMAT

'L67' IS NOT A VALID FORMAT

'TOTAL' IS NOT A VALID FORMAT

In a multifile environment, a format can only be used if it is valid in at least one of the files. Refer to file specific help messages or the STNGUIDE file for information on formats available in individual files.

REENTER DISPLAY FORMAT FOR ALL FILES (FILEDEFAULT):d

'D' IS NOT A VALID FORMAT

In a multifile environment, a format can only be used if it is valid in at least one of the files. Refer to file specific help messages or the STNGUIDE file for information on formats available in individual files.

REENTER DISPLAY FORMAT FOR ALL FILES (FILEDEFAULT):ex

'EX' IS NOT A VALID FORMAT

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REENTER DISPLAY FORMAT FOR ALL FILES (FILEDEFAULT):exit

'EXIT' IS NOT A VALID FORMAT

In a multifile environment, a format can only be used if it is valid in at least one of the files. Refer to file specific help messages or the STNGUIDE file for information on formats available in individual files.

REENTER DISPLAY FORMAT FOR ALL FILES (FILEDEFAULT):u

'U' IS NOT A VALID FORMAT

In a multifile environment, a format can only be used if it is valid in at least one of the files. Refer to file specific help messages or the STNGUIDE file for information on formats available in individual files.

L Number	Hits	Search Text	DB	Time stamp
1	1004	sensor same polymer same (coat or imbed or integra\$)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/11/18 16:31
2	22	sensor same polymer same (coat or imbed or integra?) same detect	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/11/18 16:34
3	28610	cell near15 (latex or polymer)	USPAT; US-PGPUB; EPO; DERWENT	2003/11/18 16:34
4	100	((sensor same polymer same (coat or imbed or integra\$)) and (cell near15 (latex or polymer) ))	USPAT; US-PGPUB; EPO; DERWENT	2003/11/18 16:35
5	38	((sensor same polymer same (coat or imbed or integra\$) and (cell near15 (latex or polymer) )) and porous	USPAT; US-PGPUB; EPO; DERWENT	2003/11/18 16:50
6	958771	(polymer or latex) near3 immobili\$ cell	USPAT; US-PGPUB; EPO; DERWENT	2003/11/18 16:51
7	957356	latex near2 immobilized cell	USPAT; US-PGPUB; EPO; DERWENT	2003/11/18 16:52
8	45	(polymer or latex) near2 immobilized near2 cell	USPAT; US-PGPUB; EPO; DERWENT	2003/11/18 16:52
9	6	((polymer or latex) near2 immobilized near2 cell) same (detect or measure or determin\$)	USPAT; US-PGPUB; EPO; DERWENT	2003/11/18 17:02
10	0	EP-0288203-\$.did.	USPAT; US-PGPUB; EPO; DERWENT	2003/11/18 17:02
11	0	EP-0288203-\$.did.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/11/18 17:04

ACCESSION NUMBER: 2003-0447555 PASCAL  
 COPYRIGHT NOTICE: Copyright .COPYRGT. 2003 INIST-CNRS. All rights reserved.  
 TITLE (IN ENGLISH): Microelectrochemical **sensors** for in vivo brain analysis: an investigation of procedures for modifying Pt electrodes using Nafion.RTM. Emerging Investigators Special Issue  
 AUTHOR: BROWN Finbar O.; LOWRY John P. COLON Luis (ed.); LOBINSKI Ryszard (ed.); BABA Yoshinobu (ed.)  
 CORPORATE SOURCE: Sensors Development Unit, Bioelectroanalysis Laboratory, Department of Chemistry, National University of Ireland, Maynooth, Co. Kildare, Ireland University at Buffalo, United States; Universite de Pau et des Pays de l'Adour, France; The University of Tokushima, Japan  
 SOURCE: Analyst : (London. 1877. Print), (2003), 128(6), 700-705, 38 refs. ISSN: 0003-2654 CODEN: ANALAO  
 DOCUMENT TYPE: Journal  
 BIBLIOGRAPHIC LEVEL: Analytic  
 COUNTRY: United Kingdom  
 LANGUAGE: English  
 AVAILABILITY: INIST-1036, 354000118477470320  
 AN 2003-0447555 PASCAL  
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 AB Various Nafion.RTM. coating procedures were examined in order to design a simple and reproducible coating method to maximise permselective characteristics, and thus eliminate signals from electroactive interferents, in **sensors** designed for direct in vivo measurements in the brain. Interferents investigated included ascorbic acid (AA), the principal endogenous electroactive interferent present in the brain, and uric acid. Application of the Nafion.RTM. (5% commercial solution) using a thermally annealing procedure involving 5 pre-coats, and 2 subsequent dip-bake layers resulted in elimination of interferent signals. It also produced complete blocking of the signal for the neurotransmitter dopamine. The optimum time and temperature for annealing was found to be 5 min at 210 .degree.C. An examination of shelf life over two weeks indicated negligible AA interference over this period. Preliminary investigations with respect to the potential use of these Nafion.RTM.-modified Pt electrodes in the design of implantable, first generation, peroxide detecting biosensors indicated that the modified electrode had no effect on O.sub.2 permeability but did produce a significant decrease in H.sub.2O.sub.2 sensitivity. While this may preclude their use in biosensor development they may be more suitable for detection of gaseous neurochemicals such as nitric oxide.

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ACCESSION NUMBER: 2003-0326179 PASCAL  
 COPYRIGHT NOTICE: Copyright .COPYRGT. 2003 INIST-CNRS. All rights reserved.  
 TITLE (IN ENGLISH): Preparation and characterization of implantable **sensors** with nitric oxide release coatings  
 AUTHOR: FROST Megan C.; BATCHELOR Melissa M.; YOUNGMI LEE; HUIPING ZHANG; YOUNGJEA KANG; OH Bongkyun; WILSON George S.; GIFFORD Raeann; RUDICH Steven M.; MEYERHOFF Mark E.  
 CORPORATE SOURCE: Department of Chemistry, The University of Michigan, Ann Arbor, MI 48109, United States; Department of Chemistry, University of Kansas, Lawrence, KS 66045, United States; Department of General Surgery, The University of Michigan, Ann Arbor, MI 48109, United States

SOURCE: Microchemical journal, (2003), 74(3), 277-288, 28  
refs.

ISSN: 0026-265X CODEN: MICJAN

DOCUMENT TYPE: Journal  
BIBLIOGRAPHIC LEVEL: Analytic  
COUNTRY: United States  
LANGUAGE: English  
AVAILABILITY: INIST-8678, 354000118240680090

AN 2003-0326179 PASCAL

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AB The widespread use of miniaturized chemical **sensors** to monitor clinically important analytes such as PO.sub.2, PCO.sub.2, pH, electrolytes, glucose and lactate in a continuous, real-time manner has been seriously hindered by the erratic analytical results often obtained when such devices are implanted in vivo. One major factor that has influenced the analytical performance of indwelling **sensors** is the biological response they elicit when in contact with blood or tissue (e.g. thrombus formation on the device surface, inflammatory response, encapsulation, etc.). Nitric oxide (NO) has been shown to be a potent inhibitor of platelet adhesion and activation as well as a promoter of wound healing in tissue. Herein, we review recent work aimed at the development of hydrophobic NO-releasing **polymers** that can be employed to **coat** catheter-type amperometric oxygen **sensors** without interfering with the analytical performance of these devices. Such modified **sensors** are shown to exhibit greatly enhanced hemocompatibility and improved analytical performance when implanted within porcine carotid and femoral arteries for up to 16 h. Further, results from preliminary studies also demonstrate that prototype fluorescent oxygen **sensors**, catheter-style potentiometric carbon dioxide **sensors** and subcutaneous needle-type enzyme-based amperometric glucose **sensors** can also be fabricated with new NO-release outer coatings without compromising the analytical response characteristics of these devices. The NO-release strategy may provide a solution to the lingering biocompatibility problems encountered when miniature chemical **sensors** are implanted in vivo.

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ACCESSION NUMBER: 2002-0022651 PASCAL

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TITLE (IN ENGLISH): Fiber-optic luminescent **sensors** with composite oxygen-sensitive layers and anti-biofouling coatings

AUTHOR: NAVARRO-VILLOSLADA F.; ORELLANA G.; MORENO-BONDI M. C.; VICK T.; DRIVER M.; HILDEBRAND G.; LIEFEITH K.

CORPORATE SOURCE: Departments of Organic Chemistry and Analytical Chemistry, Universidad Complutense de Madrid, 28040 Madrid, Spain; Biocompatibles Ltd., Farnham Business Park, Weydon Lane, Farnham, Surrey GU9 8QL, United Kingdom; Institute for Bioprocessing and Analytical Measurement Techniques, Rosenhof, 37308 Heiligenstadt, Germany, Federal Republic of

SOURCE: Analytical chemistry : (Washington, DC), (2001), 73(21), 5150-5156

ISSN: 0003-2700 CODEN: ANCHAM

DOCUMENT TYPE: Journal  
BIBLIOGRAPHIC LEVEL: Analytic  
COUNTRY: United States  
LANGUAGE: English  
NOTE: ref. et notes dissem.

AVAILABILITY: INIST-120B, 354000099968370250

AN 2002-0022651 PASCAL

CP Copyright .COPYRGT. 2002 INIST-CNRS. All rights reserved.  
 AB Anti-biofouling **polymers** containing phosphorylcholine (PC)-substituted methacrylate units have been prepared by copolymerization with dodecyl methacrylate and used to **coat** luminescent oxygen **sensors**. Nanometer-sized coatings of such materials are shown to reduce significantly the adhesion of marine bacteria (more than 70%) and thrombocytes (more than 90%) to the surface of tris-(4,7-diphenyl-1,10-phenanthroline)ruthenium(II)-doped silicone layers. A thorough analytical characterization of both the PC-coated and the uncoated dyed films has demonstrated that the anti-biofouling layers do not alter dramatically the performance of the fiber-optic oxygen **sensors** in aqueous media and are mechanically stable for more than one year of continuous immersion. The slope of the linear calibration plots in the 0-8 mg L.sup.-.sup.1 oxygen concentration range (ca. 1.0 L mg.sup.-.sup.1) decreases 8-11% after applying the 50-nm protective layer with no change in the **sensor** precision (1.1-1.9% RSD, n = 6). The response time of the 200-.mu.m 0.sub.2-sensitive layers (1.5-6 min) increases up to 2-fold, depending on the nature of the PC **polymer** used, but the temperature effect on the **sensor** response (0.020 L mg.sup.-.sup.1 .degree.C.sup.-.sup.1) remains essentially unchanged. Oxygen detection limits as low as 0.04 mg L.sup.-.sup.1 have been measured with the coated optodes. The novel biofouling-resistant optosensors have been successfully validated against a commercial oxygen electrode and are shown to respond faster than the electrochemical device for large oxygen concentration changes. The biomimetic coatings will be particularly useful for drift-free long-term operation of environmental optosensors and in vivo fiber-optic oxygen analyzers.

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ACCESSION NUMBER: 2001-0295678 PASCAL  
 COPYRIGHT NOTICE: Copyright .COPYRGT. 2001 INIST-CNRS. All rights reserved.  
 TITLE (IN ENGLISH): Research in particle coating and agglomeration at West Virginia University  
 Granulation and coating of fine powders  
 AUTHOR: TURTON R.; BHATIA A.; HAKIM H.; SUBRAMANIAN G.; NORMAN Lewis  
 TARDOS Gabriel I. (ed.)  
 CORPORATE SOURCE: Department of Chemical Engineering, CEMR, West Virginia University, P.O. Box 6102, Morgantown, WV 26506-6102, United States; Halliburton Energy Services, 2600 South 2nd St., Duncan, OK 73536, United States  
 Department of Chemical Engineering, The City College of The City University of New York, Convent Avenue at 140th Street, New York, NY 10031, United States  
 SOURCE: Powder technology, (2001), 117(1-2), 139-148, 19 refs.  
 ISSN: 0032-5910 CODEN: POTE BX  
 DOCUMENT TYPE: Journal  
 BIBLIOGRAPHIC LEVEL: Analytic  
 COUNTRY: Switzerland  
 LANGUAGE: English  
 AVAILABILITY: INIST-13653, 354000098895940080

AN 2001-0295678 PASCAL

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AB Over the last three years, work in the Particle Coating Laboratory at West Virginia University has focused on three main areas. The first area concerns the reversible agglomeration of cement to produce a granular product (2-10 mm) that can be transported easily and can be broken down and hydrated to form a cement slurry with properties identical to virgin cement. This agglomeration process uses a binding agent consisting of calcium chloride (CC) and tartaric acid (TA) dissolved in methanol that

can be considered an inert solvent. By adjusting the proportions of the cement set accelerating agent (CC) and the retarding agent (TA) a granular cement product can be formed that gives a cement slurry with essentially the same characteristics as that obtained from virgin cement. The resulting concrete also has the same compressive strength, obtained in a standard 3-day test, as virgin cement. The second research area concerns the formation of encapsulated brittle particles of ammonium persulfate (AP) that are used as viscosity breaking agents for fracturing fluids. In order to obtain a **coat** that under goes brittle fracture when subjected to a compressive load, a coating of a cross-linked acrylate **polymer** containing up to 80 wt% of fine (<15 .mu.m) silica was used. By varying the coating level of acrylate, the release of the ammonium persulfate using a standard leach test can be reduced to acceptably low levels (<3%). By changing the fraction of silica in the **coat**, the release of the ammonium persulfate when the particles are subjected to a known compressive stress (13.8 MPa) can be increased to approximately 70%. The particles formed by this process comprise of agglomerates of between 10 and 20 individually coated particles. When subjected to an applied load, these agglomerates fracture and the coating on the individual particles is sheared away thus releasing AP. These particles can be used as viscosity breaking agents in drilling well fracturing operations. The third project consists of the video imaging of particle movement in a semicircular fluidized bed typically used in coating operations. The particles of interest are 8-mm-diameter tablets. The technique used to capture particle velocity data utilizes two CCD cameras that are synchronized to capture images that are between 1 and 5 ms apart. The mapping of particle velocity within the spray region in the draft tube insert under a variety of conditions is currently underway. Preliminary data is presented and discussed.

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ACCESSION NUMBER: 2000-0369936 PASCAL  
COPYRIGHT NOTICE: Copyright .COPYRGT. 2000 INIST-CNRS. All rights reserved.  
TITLE (IN ENGLISH): Ideality of pressure-sensitive paint. III. Effect of the base-**coat** permeability on the luminescence behavior of the sensing layer  
AUTHOR: GOUIN S.; GOUTERMAN M.  
CORPORATE SOURCE: Department of Chemistry, University of Washington, Seattle, Washington 98195, United States  
SOURCE: Journal of applied polymer science, (2000), 77(13), 2815-2823, 25 refs.  
ISSN: 0021-8995 CODEN: JAPNAB  
DOCUMENT TYPE: Journal  
BIBLIOGRAPHIC LEVEL: Analytic  
COUNTRY: United States  
LANGUAGE: English  
AVAILABILITY: INIST-1257, 354000090320470030  
AN 2000-0369936 PASCAL  
CP Copyright .COPYRGT. 2000 INIST-CNRS. All rights reserved.  
AB The response time and temperature dependence of a pressure-sensitive paint (PSP) based on platinum tetra(pentafluorophenyl)porphine (PtTFPP) in the fluoroacrylic **polymer** FIB significantly increases for bilayer paint systems that include a base **coat** made of different **polymers** with solid TiO.sub.2 added as scattering agent, compared to the single-layer **sensor** paint. The temperature dependencies at vacuum are the same in the various bilayer coatings (paint/base **coat**) as compared to monolayer paint, roughly -0.53%/degree.C. With FIB base **coat** the percent of TiO.sub.2 is adjusted to reduce photodegradation, in which case only a slight increase in response time (0.6 0.8 s) is caused by the base **coat** and there is almost no change in temperature dependence at 1

atm. However, in the cases of the less permeable **polymers**, poly(methylmethacrylate) (PMMA) and poly(vinyl acetate) (PVA), there is increased response time of the bilayer coating (rising, respectively, to 15 and 7 s) and significantly greater temperature dependence at 1 atm. The highly impermeable polyacrylonitrile (PAN) as base **coat** shows little effect on response time but a somewhat higher temperature dependence at 1 atm compared to vacuum. For the highly permeable polydimethylsiloxane (PDMS), adjustment of the TiO<sub>2</sub> concentration is needed to prevent an increase in temperature dependence but both PDMS base **coats** tested have response times < 2 s and low-temperature dependence.

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ACCESSION NUMBER: 2000-0407393 PASCAL  
COPYRIGHT NOTICE: Copyright .COPYRGT. 2000 INIST-CNRS. All rights reserved.  
TITLE (IN ENGLISH): Parallel frequency readout of an array of mass-sensitive transducers for **sensor** applications  
AUTHOR: Micro- and Nano-Engineering 99: MNE 99  
KIM B. H.; MAUTE M.; PRINS F. E.; KERN D. P.; CROITORU M.; S.RAIBLE; WEIMAR U.; GOEPEL W.  
GENTILI Massimo (ed.); DI FABRIZIO Enzo (ed.);  
CORPORATE SOURCE: MENECHINI Giancarlo (ed.)  
Institute of Applied Physics, University of Tuebingen, Auf der Morgenstelle 10, 72076 Tuebingen, Germany, Federal Republic of; Institute of Physical and Theoretical Chemistry, University of Tuebingen, Auf der Morgenstelle 8, 72076 Tuebingen, Germany, Federal Republic of  
Istituto di Elettronica dello Stato Solido-CNR, Via Cineto Romano 42, 00156 Rome, Italy; INFN-TASC at Elettra Synchrotron Light Source - LILIT Beam-line, S.S.14 Km 163.5, Area Science Park, 34012 Basovizza, Trieste, Italy; CSELT, Centro Studio e Lab. Telecomunicazioni, Via G. Reiss Romoli, 274, 10141 Torino, Italy  
SOURCE: Microelectronic engineering, (2000), 53(1-4), 229-232, 3 refs.  
Conference: 25 International Conference on Micro- and Nano-Engineering, Rome (Italy), 21 Sep 1999  
ISSN: 0167-9317 CODEN: MIENEF  
DOCUMENT TYPE: Journal; Conference  
BIBLIOGRAPHIC LEVEL: Analytic  
COUNTRY: Netherlands  
LANGUAGE: English  
AVAILABILITY: INIST-20003, 354000090746350450

AN 2000-0407393 PASCAL  
CP Copyright .COPYRGT. 2000 INIST-CNRS. All rights reserved.  
AB **Polymer** coated cantilevers as mass-sensitive transducers for miniaturized gas **sensors**, an approach for which promising results have been demonstrated recently [1], have been developed and investigated further towards applications. A new detection arrangement has been realized, which enables a simultaneous frequency readout of several cantilevers. In addition, it was possible to **coat** the cantilevers with different **polymers** showing specific sensitivity to different gases. Finally, we present the first measurements on the simultaneous application and readout of differently coated cantilevers exposed to a mixture of gases.

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ACCESSION NUMBER: 2001-0349855 PASCAL

COPYRIGHT NOTICE: Copyright .COPYRGT. 2001 INIST-CNRS. All rights reserved.

TITLE (IN ENGLISH): Plasma **polymers** applied to chemical sensing

AUTHOR: PARTRIDGE Ashton; HARRIS Paul; HIROTSU Toshihiro; KUROSAWA Shigeru

CORPORATE SOURCE: Industrial Research Ltd., Lower Hutt, New Zealand; National Institute of Materials and Chemical Research, Ibaraki, Japan

SOURCE: Plasmas and polymers, (2000), 5(3-4), 191-200, 13 refs.  
ISSN: 1084-0184

DOCUMENT TYPE: Journal

BIBLIOGRAPHIC LEVEL: Analytic

COUNTRY: United States

LANGUAGE: English

AVAILABILITY: INIST-26303, 354000096631140050

AN 2001-0349855 PASCAL

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AB The paper describes attempts to apply plasma **polymers** to the development of chemical **sensors**. The plasma **polymers** were used as membranes to **coat** conventional conducting **polymer sensors**, as stand-alone chemiresistive **sensors** and as absorbent coatings on quartz crystal microbalances. The plasma **polymers** were derived from combinations of pyrrole and three silicon containing monomers. In the chemiresistive **sensors**, conductivity was induced in the **polymer** matrix by doping with iodine. The paper describes the experimental polymerization conditions, the physical characteristics of the **polymers**, and the application of the different **polymers** to sensing common volatile analytes.

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ACCESSION NUMBER: 2000-0334255 PASCAL

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TITLE (IN ENGLISH): Quartz microbalance microcalorimetry: A new method for studying **polymer**-solvent thermodynamics  
Advances in thermal characterization of polymeric materials

AUTHOR: SMITH A. L.; SHIRAZI H. M.  
KEATING Mimi Y. (ed.)

CORPORATE SOURCE: Chemistry Department, Drexel University, Philadelphia, PA 19104, United States  
E. I. duPont de Nemours and Company, Wilmington, DE 19880-0323, United States

SOURCE: Journal of thermal analysis and calorimetry, (2000), 59(1-2), 171-186, 24 refs.  
ISSN: 1388-6150

DOCUMENT TYPE: Journal

BIBLIOGRAPHIC LEVEL: Analytic

COUNTRY: Netherlands

LANGUAGE: English

AVAILABILITY: INIST-6367, 354000087525790130

AN 2000-0334255 PASCAL

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AB We have developed a sensitive method of determining enthalpy changes for gas-surface interactions: quartz microbalance microcalorimetry. We mount in an isoperibol environment both sample and reference combinations of a quartz crystal microbalance (QCM) in intimate thermal contact with a heat flow **sensor**. We **coat** the sample QCM with a thin (.eqvsim.1 .mu.m) **polymer** film. By exposing the film to ethanol vapor, we measure simultaneously the change in mass per unit area (to =0.25 ng cm.sup.-.sup.2) and the resulting heat flows (to .+- .50 nW) when

the **polymer** adsorbs or desorbs ethanol. The molar enthalpies of sorption of ethanol vapor in Tecoflex, an aliphatic polyurethane elastomer, are  $\Delta H_{\text{ads}} = -53. \pm .8 \text{ kJ mol}^{-1}$  and  $\Delta H_{\text{des}} = 52. \pm .3 \text{ kJ mol}^{-1}$ .

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ACCESSION NUMBER: 1999-0122256 PASCAL  
COPYRIGHT NOTICE: Copyright .COPYRGT. 1999 INIST-CNRS. All rights reserved.  
TITLE (IN ENGLISH): Dynamic behavior of ultra-thin **polymer** films deposited on surface acoustical wave devices  
AUTHOR: AHUJA A.; JAMES D. L.; NARAYAN R.  
CORPORATE SOURCE: Texas Tech University, Box 41021, Lubbock, TX 79409-1021, United States  
SOURCE: Sensors and actuators. A, Physical, (1999), 72(3), 234-241, 20 refs.  
ISSN: 0924-4247  
DOCUMENT TYPE: Journal  
BIBLIOGRAPHIC LEVEL: Analytic  
COUNTRY: Switzerland  
LANGUAGE: English  
AVAILABILITY: INIST-19425A, 354000073717360060  
AN 1999-0122256 PASCAL  
CP Copyright .COPYRGT. 1999 INIST-CNRS. All rights reserved.  
AB This paper reports the experimental results for **polymer**-coated surface acoustic wave (SAW) that were exposed to various gases (carbon dioxide, methane, ethane). The **polymers** used to coat the SAW devices were polycarbonate (PC; glassy), polyisobutylene (PIB; rubbery), and polydimethylsiloxane (PDMS: most rubbery). It was observed that the direction of the frequency shift of the SAW delay line oscillator for the SAW filters coated with PC and PIB could be described from existing work by Wohltjen [H. Wohltjen, Mechanism of operation and design considerations for surface acoustic wave device vapor **sensors**, *Sensors and Actuators A* 5 (1984) 307-325] in which the modulus terms and the electrical terms are insignificant compared to the mass loading terms. However, for the PDMS-coated SAW this was not the case. In every experiment performed, the frequency shift was positive, exactly opposite of what was predicted by the Wohltjen's equation for acoustically thin, perfectly elastic films. It is felt that operation at high frequencies causes changes in the oscillation frequency due to changes in the modulus term in Wohltjen's equation to be comparable to the change in frequency due to the mass loading ( $\Delta \rho$ ) term. This is especially relevant if the solubility of the penetrant gases is low.

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ACCESSION NUMBER: 1999-0015005 PASCAL  
COPYRIGHT NOTICE: Copyright .COPYRGT. 1999 INIST-CNRS. All rights reserved.  
TITLE (IN ENGLISH): Performance optimization of surface acoustic wave chemical **sensors**  
**Sensors** and actuators  
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SOURCE: IEEE transactions on ultrasonics, ferroelectrics, and frequency control, (1998), 45(5), 1370-1380, 29 refs.  
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AB Acoustic wave devices coated with a thin layer of chemoselective material provide highly sensitive chemical **sensors** for the detection and monitoring of vapors and gases. In this work, a variety of coating materials and coating deposition techniques have been evaluated on surface acoustic wave (SAW) devices. A novel thin film deposition technique, matrix assisted pulsed laser evaporation (MAPLE), is utilized to **coat** high quality **polymer** films on SAW devices, and conventional pulsed laser deposition is used to deposit a passivation layer of diamond-like-carbon on a SAW device surface to prevent water adsorption. In addition, chemoselective coatings are formed by covalent attachment of functionalized species to the silica surface of SAW devices. The self-assembled monolayer or near monolayer structures are designed to populate the SAW device surface with the desirable hexafluoroisopropanol moiety. The rapid kinetic signals achievable with the various coated SAW **sensors** during vapor tests are examined as a function of the coating material and the quality of the thin films. In parallel to the thin film deposition, growth, and vapor testing, the electrical characteristics of the SAW **sensor** have been characterized. The quality factor and residual phase noise of **polymer** coated SAW devices are examined, and a prediction of the theoretical limit of the phase noise performance of the loop oscillator is made.

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DUPLICATE

ACCESSION NUMBER: 1996:26185168 BIOTECHNO

TITLE: Strategies for decreasing ascorbate interference at glucose oxidase-modified poly(o-phenylenediamine)-coated electrodes

AUTHOR: McAteer K.; O'Neill R.D.

CORPORATE SOURCE: Department of Chemistry, University College  
Dublin, Belfield, Dublin 4, Ireland.

SOURCE: Analyst, (1996), 121/6 (773-777)

CODEN: ANALAO ISSN: 0003-2654

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COUNTRY: United Kingdom

LANGUAGE: English

SUMMARY LANGUAGE: English

AN 1996:26185168 BIOTECHNO

AB Monitoring glucose using biosensors in biological systems is complicated by the presence of reducing agents such as ascorbic acid (AA). This is particularly so in brain extracellular fluid (ECF), where glucose concentrations may be as low as 1 mmol l.<sup>sup.</sup> and AA levels are approximately 500 .mu.mol l.<sup>sup.</sup>. Since glucose oxidase-modified poly(o-phenylenediamine)-coated Pt (Pt/PPD/GOx) electrodes show good stability in vivo, glucose sensitivity and AA-blocking properties, attempts were made to improve the latter characteristic further by two distinct strategies: incorporating non-enzyme protein into the **polymer** film and underlaying the **polymer** with a lipid **coat**. Both tactics significantly decreased interference by AA without changing the sensitivity to glucose, the lipid modification being the more effective. The current ratio I(Gluc)/I(AA) for 1 mmol l.<sup>sup.</sup> glucose and 500 .mu.mol l.<sup>sup.</sup> AA for the best 50% of the lipid-modified Pt/PPD/GOx electrodes was approximately 30:1, indicating that these **sensors** are well suited for monitoring brain glucose in vivo.

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DUPLICATE

ACCESSION NUMBER: 1994:24245755 BIOTECHNO  
 TITLE: Rapid detection of hyperglycaemia by a subcutaneously-implanted glucose **sensor** in the rat  
 AUTHOR: Ward W.K.; Wilgus E.S.; Troupe J.E.  
 CORPORATE SOURCE: Good Samaritan Diabetes Institute, 1130 N.W. 22nd Ave, Portland, OR 97210, United States.  
 SOURCE: Biosensors and Bioelectronics, (1994), 9/6 (423-428)  
 CODEN: BBIOE4 ISSN: 0956-5663  
 DOCUMENT TYPE: Journal; Article  
 COUNTRY: United Kingdom  
 LANGUAGE: English  
 SUMMARY LANGUAGE: English

AN 1994:24245755 BIOTECHNO

AB The relationship between the concentration of **polymer** in the **coat** of an electrochemical glucose **sensor** and the lag time between changes in blood glucose and **sensor** output was explored. **Sensors** designed to be highly permeable to glucose were coated with a polyurethane mixture diluted 1: 6.7 (15%) in trichloroethane. **Coats** of those designed to be less permeable were diluted 1:2.5 (40%). The in vitro response of the 40% **sensors**, but not of the 15% **sensors**, was nearly linear up to a glucose level of 56 mM. When tested in 10 rats, the response of the 15% **sensors** to injected glucose was much more rapid than that of the 40% **sensors**. The time difference between the peak blood glucose level and peak **sensor** output was also much smaller for the 15% **sensors**. In conclusion, use of an electrochemical glucose **sensor** with high permeability to glucose demonstrates that glucose in the intravascular space equilibrates very rapidly with the subcutaneous space.